DEVELOPMENT OF EMPLOYEE MANAGEMENT INFORMATION SYSTEM PT. NUSA RIZKIA TELE-TRONICS

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ABSTRACT

PT. Nusa Rizkia Tele-Tronics is a company engaged in the sale of goods / services Telecommunications and Electrical established since 2005. PT. Nusa Rizkia Tele-Tronics is based in Bandung and has 3 branch offices in 3 different cities namely in Garut, Sukabumi and Karawang. PT. Nusa Rizkia Tele-Tronics has 601 employees, where employees are spread in 1 head office and 3 branches, the head office is divided into 12 positions and in each branch office divided into 10 parts and each position of course has different job qualifications . The head office has 78 people, Garut branch office has 190 people, branch office Sukabumi 205 people, branch office Karawang 128 people. All personnel systems are concentrated in headquarters sent through branch heads.

The method used for recruitment is AHP Method (Analytical Hierarchy Process). The problems found are in the inadequate assessment of corporate and human resources. Other issues in employee performance appraisal are performed when conducting employee appraisals, which serve as the basis for promotion, demotion and dismissal. Impact on employees if performance is not good enough to get the best value, get promotion or otherwise. The method used for the assessment of the method 360. Personnel management used is POAC (Planning, Organizing, Actuating, Controlling).

Based on the results of functional testing, interview and end-user implementation testing in the corporate environment. This study can be concluded that this system helps companies perform employee recruitment and performance appraisal.

Key Words : Management Information System, Staffing, POAC Management, Analytical Hierarchy Process Method, 360 Method

1. INTRODUCTION

Human Resources (HR) is a very important asset in the company. Human Resource Management is a process of dealing with various problems in the scope of the workers, employees, managers and other workers to be able to support activities in order to achieve the stated goals. Every company that develops or has grown up must get the role of employee, because the performance quality is very influential on the company.[2] PT. Nusa Rizkia Tele-Tronics is a company engaged in the sale of Telecommunication and Electrical goods / services established in 2005. PT. Nusa Rizkia Tele-Tronics is based in Bandung and has 3 branch offices in 3 different cities, namely in Garut, Sukabumi and Karawang. PT. Nusa Rizkia Tele-Tronics has 601 employees, where the employees are spread over 1 head office and 3 branch offices, in the head office is divided into 12 positions and in each branch office is divided into 10 parts and each position must have different job qualifications . The head office has 78 people, Garut branch office has 190 people, Sukabumi branch office 205 people, Karawang branch office 128 people. All personnel systems are concentrated in the head office that is sent through the branch head.

In the process of recruitment of companies using a closed method, a closed method is where recruitment is only informed to employees or certain people only and the assessment is subjective. This happens because the vacancy must be filled immediately so that HRD ignores the criteria set by the company, as a result the company gets employees who are not in accordance with the criteria and lack of quality.

Criteria for appraisal of employees in the form of work quality, quantity of work, discipline, responsibility, cooperation, understanding of tasks, adjustment. After assessing the results of the assessment, it is given to HRD to recap and submit to employees. Because the General Manager only conducts his own assessment can lead to subjective judgments, so this affects the results of the assessment which will affect employee career development and as an evaluation of company employees.

Based on the problems that have been described, the author intends to develop the employee Management Information System of PT. Nusa Rizkia Tele-Tronics in hopes of helping PT. Nusa Rizkia Tele-Tronics in employee management

The purpose of this research is to carry out the final assignment to develop the Employee Management Information System of PT. Rizkia Tele-Tronics.

The purpose of this research is as follows:

1. Assist HRD (Human Resource Development) in making decisions on the acceptance of new prospective employees in accordance with the assessment of criteria set by the company.
2. Assist the General Manager in assessing employee performance in accordance with the assessment criteria.

2. RESEARCH CONTENT

2.1. Theoretical Basis

The theoretical basis used in preparing the final project report on the Employee Management Information System at PT. Nusa Rizkia Tele-Tronics is as follows:

2.1.1 System

The system can be defined as a unit consisting of two or more components or sub-systems that interact to achieve a goal. [1]

2.1.2 Information

Information is a collection of data that has been processed either qualitative or quantitative and has a broader meaning. The data is processed into a form that is more useful and more meaningful for those who receive it. [1]

2.1.2 Information system

The information system is a collection of components in a company that relate to the process of creating and flowing information. The reliability of an information system in a company lies in the interrelationship between existing components so as to produce a flow of information that is useful, accurate, reliable, detailed, fast, relevant for the interests of the company's operations. [1]

2.1.4 Management

Management is a process of planning, organizing, leadership and supervision among members of a company organization by using all organizational resources to achieve its stated goals. Managerial level consists of Strategic Planning Level (Top Management), Management Control Level (Middle Management), and Operational Control Level (Lower Management). This position is very influential on the source and form of information needed by a company's Head of Section as material for the decision making process. [2]

Management is a process carried out to realize organizational goals through a series of activities in the form of planning, organizing, directing, and controlling people and other organizational resources. [2]

2.1.5 Management Information System

Management Information Systems is an integrated human and machine system to present information to support the functions of operations, management and decision-making processes within an organization [2]

Management Information System is a combination of personnel and information technology applications to select, store, process and retrieve data in order to support the decision making process of a company. [2]

2.1.6 Employment

Employment is a human who works in an organization
(also called personnel, labor, workers, or employees) Personnel is human potential as an organizational driver in realizing its existence. [2]

Employment is the potential that is an asset and functions as capital (non-material / non-financial) in a business organization, which can manifest into real physical and non-physical potential in realizing its existence. [2]

2.1.7 Employment Management Information System

The employment management information system is a multiuser application system, meaning that this application can be used simultaneously with many users. For this reason, a computer network that is supported by software and hardware is needed so that the system can run perfectly. [2]

2.1.8 POAC Management

Management is the achievement of predetermined goals by using other people's activities which consist of planning, organizing, actuating, and controlling actions. The POAC Management functions are as follows:

a. Planning is an activity related to the selection of alternatives, policies, procedures, and programs as a form of effort to achieve the objectives to be achieved. 4 (four) basic skills in planning activities:
   a) Insight: the ability to collect facts by conducting investigations on matters relating to the planned problem. [3]
   b) Forsight: the ability to project or describe the road or ways to be taken, estimating the conditions that may arise as a result of the activities carried out. [3]
   c) Exploratory study: the ability to see everything as a whole, so that an integral picture of the existing conditions is obtained. [3]
   d) Doorsight: the ability to know all the ways that can disguise views, making it possible to make decisions. [3]
b. Organizing Is an action or activity combining all the potential that exists from all parts of a group of people or bodies or organizations to work together to achieve a goal that has been determined jointly, both for personal goals or group goals and organizations. In organizing, the term CISS is known (coordination, integration, simplification, and synchronization) in order to create harmony in organizational activities. [3]
c. Actuating is the implementation of planning and organizing, where all components that are in one system and one organization work

together in accordance with their respective fields in order to realize goals. [3]

d. Controlling is the control of all activities from the process of planning, organizing and implementing, whether all of these activities provide effective and efficient and useful and effective results. [3]

2.1.9 Analytical Hierarchy Process (AHP)

Analytical Hierarchy Process (AHP) was developed by Thomas L. Saaty in the 1970s. This method is one of the multicriteria decision-making models that can help the human frame of mind in which the logic, knowledge, emotion and sense factors are optimized into a systematic process. Basically, AHP is a method used to solve complex and unstructured problems into its groups, by arranging the group into a hierarchy, then entering numerical values instead of human perceptions in conducting relative comparisons. With a hypothesis, it will be possible to determine which element has the highest priority. [4] The flow of the AHP method can be seen in Figure 2.3

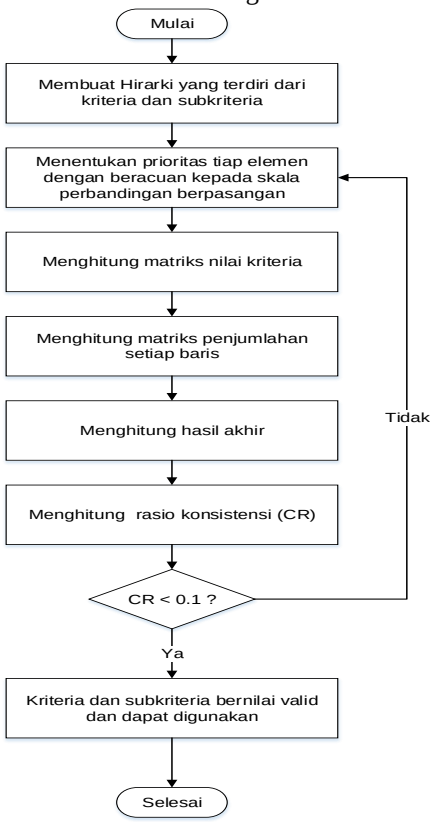


Figure 2. 1 Flowchart AHP Method

The AHP component is a functional hierarchy with its main input in the form of human principles. AHP has many advantages, one of which is that it can be described graphically so that it is easily understood by all parties involved in a decision making. Some principles when the SPK problem uses the AHP method that must be understood [4]:

a) Create Hierarchy

Complex systems can be understood by dividing them into supporting elements, arranging elements hierarchically, and combining them or synthesizing them. Decomposition is a function to solve or divide the whole problem into elements and then become a hierarchy of decision-making processes, where each element is interconnected with each other. [4] The structure of the AHP hierarchy can be seen in Figure 2.2:

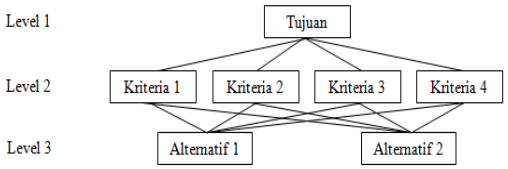


Figure 2. 2 AHP Hierarchy Structure

b) Assessment of criteria and alternatives

Criteria and alternatives are carried out by pairwise comparisons. [4]

c) *Systhesis of priority*

Each criterion and alternative needs to be pairwise comparisons. The values of all comparisons can be adjusted according to the judgment that has been established to produce a weight and priority. The weight and priority are calculated by doing matrix manipulation or it can also do mathematical equations. [4]

d) *Logical Consistency*

Consistency has two meanings. First, the same / similar objects can be grouped based on uniformity and relevance. Second, concerning the level of relations between objects based on certain criteria. [4]

AHP has a procedure in processing data to get decisions that are in accordance with a predetermined hierarchy.[4] The procedures in AHP are as follows:

a) Define the problem and determine the desired solution. After that, only arrange a hierarchy. [4]

b) Determine the priority of the element as the first step. It is a comparison of pairs that match the criteria given. The comparison matrix is filled using numbers in order to represent the relative importance of one element with other elements. [4]

c) Make a comparison matrix in accordance with criteria and subcriteria, then make an average of each criterion or subcriteria: Determine pairwise comparison matrix.[4]

Each value in column 2 with lines 2 through n refers to the rating scale in table 2.2. Determination of values must be based on a rating scale if the criteria for columns and rows are the same then have a value of one because they are equally important elements. In the second row and so on comparing whether column 2 with row 3 has the same value or not, if not then determine the value

of the scale that must be determined whether the same is important, important or otherwise. [4]

e) Determine the criteria value matrix
f) Create an addition matrix for each row
g) Calculate the consistency ratio

In this stage we can find out how well a decision is consistent. Because it is impossible to determine a decision with a low level of consistency.[4]

Before calculating a consistency [4], first do the following steps:

Results (in table 2.5) = Number of lines + priority
Amount (in table 2.5) = K1 + K2 + K3 + Kn
λ max = Amount (at 2.5) / number of criteria
Calculate Consistency Index (CI) with the formula:
CI = (λ max-n) / n
Where n = number of elements
Calculate the Consistency Ratio (CR) with the formula:
CR = CI / IR
Where is the CR = Consistency Ratio, CI = Consistency Index, IR = Index Random Consistency [4]

h) Determine consistency

Determine the consistency of a decision. If the value is more than 10% then the judgment rating (rating scale) must be corrected, if a consistency ratio (CI / IR) is less than 0.1 then declared correct. [4]

2.1.10 360 Method

Karmawidjaja (2007) states that by definition a 360-degree process can be interpreted as a process that involves collecting data regarding perceptions of a person's or individual's behavior and the impact of that behavior on the boss, colleagues, subordinates and other members of a good team. project team, customers, from inside and outside the company, including suppliers and subcontractors.

Rowe (1995) states that the assessment of a 360 degree approach is a form of approach that is expected to reduce the bias and subjectivity of performance appraisal with a top-down approach

2.2 Problem Analysis

Based on the results of an interview with Mr. Oman Sulaeman as the Head of HRD stated that currently the company still has the following constraints:

a. HRD has difficulty in choosing the right employee according to the number and criteria needed by the company.
b. The General Manager has difficulty in making decisions on the employee performance appraisal, which is only done based on absences, part-time coworkers interviews and personal assessment without clear indicators.

2.2.1 Employment Management Analysis

Employment management analysis at PT. Nusa Rizkia Tele-Tronics will be described using the POAC model (Planning, Organizing, Actuating, Controlling). The stages of the POAC model on this Staffing SIM will be illustrated in Figure 2.3:

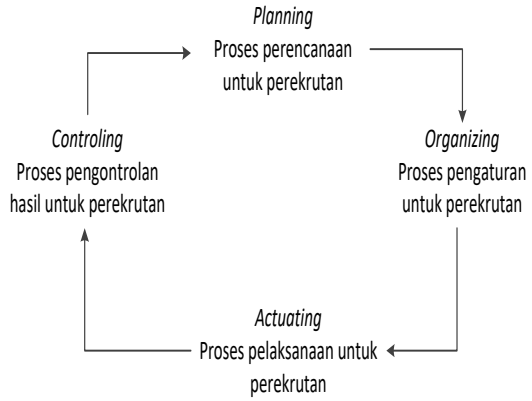


Figure 2. 3 POAC Model

A. Analysis of New Employee Recruitment

POAC model in the recruitment and selection process of employees at PT. Nusa Rizkia Tele-Tronics conducted by HRD can be seen in Table 2.1:

Table 2. 1 POAC Recruitment and Selection of Prospective New Employees

Perekrutan dan Seleksi Pegawai	
Planning	Merencanakan jumlah pegawai yang dibutuhkan perusahaan yang sesuai dengan kriteria perusahaan.
Organizing	Mengatur kebutuhan sesuai dengan jenis pegawai untuk mengisi kekosongan jabatan yang ada.
Actuating	1. Mengajukan form permintaan tenaga kerja dan meminta persetujuan general manajer untuk melakukan perekrutan. 2. Memasang iklan lowongan pekerjaan. 3. Melakukan proses perekrutan dan seleksi dengan menggunakan alat bantu seperti metode AHP, dimana hasilnya dapat digunakan sebagai alternatif untuk menentukan calon pegawai yang lolos seleksi.
Controlling	Mengevaluasi hasil perekrutan dan seleksi sebagai dasar acuan dilakukannya penempatan pegawai.

a) *Planning* (Recruitment and Selection Planning for New Employees)

At this stage the General Manager section will plan, request and determine the number and criteria required in accordance with the vacancy in the position available to HRD. Determination of criteria for each position or part carried out by the General Manager in accordance with the criteria required and in accordance with the company.

b) *Organizing* (Organizing Recruitment and Selection of New Employees)

This stage is organizing the results of determining the priorities of each of the criteria and subcriteria that have been carried out in the previous stages.

c) *Actuating* (Actuating New Employee Recruitment)

This stage is the implementation of evaluation of candidates for prospective employees who have been carried out in the previous stages.

d) *Controlling* (Controlling New Employee Recruitment)

This stage is an examination phase whether the results of the recruitment done are in accordance with what is expected by the company. This examination is carried out by checking the recruitment results of each prospective employee. Taking the final value based on the value of the prospective employee multiplied by the priority value.

B. Analysis of Employee Work Assessment

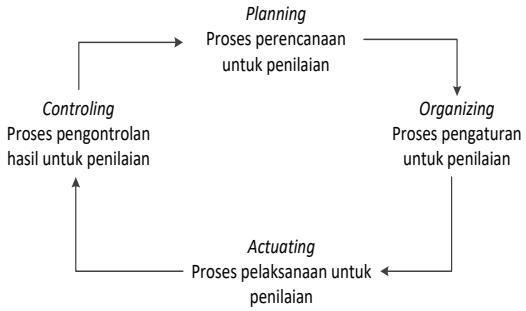


Figure 2. 4 POAC Employee Performance Assessment

Figure 2.4 is a POAC model in the employee appraisal process at PT. Nusa Rizkia Tele-Tronics is carried out by the General Manager, section head and HRD can be seen in Table 2.2

Table 2.2 POAC Model Employee Performance Assessment

Penilaian Kinerja Pegawai	
Planning	Melakukan perencanaan tentang periode penilaian, siapa saja yang melakukan penilaian dan menentukan kriteria beserta bobot dari setiap kriteria dan menentukan bobot penilai.
Organizing	Mengatur perencanaan tentang periode penilaian, siapa saja yang melakukan penilaian dan kriteria beserta bobot dari setiap kriteria agar dapat sesuai dengan yang telah ditentukan.
Actuating	Melakukan proses penilaian kinerja pegawai oleh para penilai sesuai dengan apa yang sudah direncanakan dengan menggunakan bantuan metode 360.
Controlling	Mempelajari dan mengecek ulang hasil dari penilaian kinerja pegawai untuk selanjutnya hasil penilaian ini akan digunakan sebagai salah satu acuan dalam mengambil keputusan dalam pemberian bonus dan pemberhentian

a) *Planning* (Planning Employee Performance Assessment)

At this stage, the HRD will plan before conducting an employee performance assessment by determining the criteria and the weight of the criteria and the weight of each assessor.

b) Organizing (Organizing Employee Work Assessment)

At this stage the General Manager will make arrangements for the planning of the assessment period, whoever makes the assessment and the criteria along with the weight of each criterion in order to be in accordance with the predetermined.

c) Actuating (Implementation of Employee Work Assessment)

At this stage the assessor will carry out or evaluate employee performance. Assessment is done by giving value to employees based on predetermined criteria. The results of this performance assessment will affect the promotion, giving bonuses, demos and dismissal of work.

d) Control (Control of Employee Work Assessment)

At this stage an examination will be conducted on whether the results of employee performance appraisals that have been completed are as expected by the company. This examination is carried out by examining the results of the performance of employees of each employee.

2.3 Database Analysis

Database analysis on the employment management information system of PT. Nusa Rizkia Tele-Tronics which will be built using Entity Relationship Diagram (ERD). ERD is a data model that uses several notations to describe data in the entity context and the relationships described by the data. The diagram is illustrated in Figure 2.5

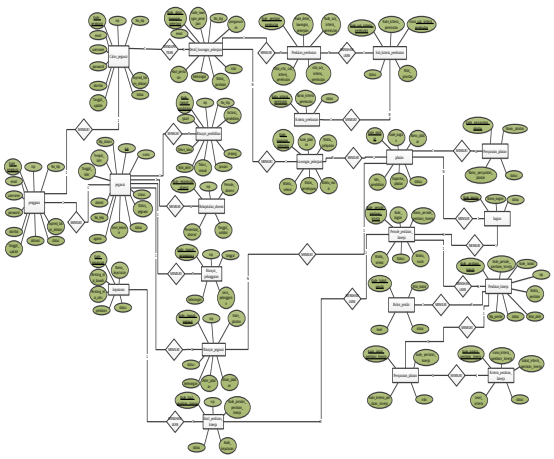


Figure 2. 5 ERD

2.4 Context Diagram

Context diagram is a diagram consisting of a process and describes the scope of a system

The following is a context diagram on the personnel management information system at PT. Nusa Rizkia Tele-Tronics can be seen in Figure 2.6:

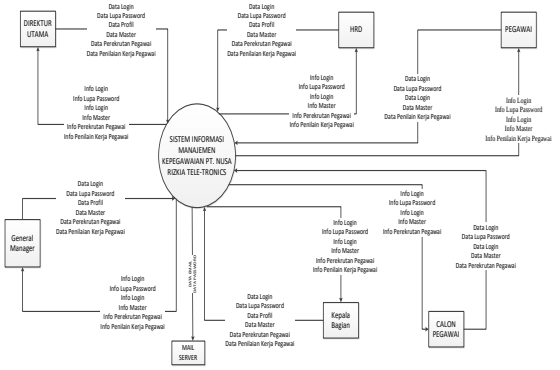


Figure 2. 6 Context Diagram

2.5 DFD

Data Flow Diagrams (DFD) are representations or graphic modules on the system that show the data flow of information carried out by the user to the destination with the processing process.

DFD Level 1 Staffing Management Information System PT. Nusa Rizkia Tele-Tronics, in Figure 2.7 explains in general what processes can be done.

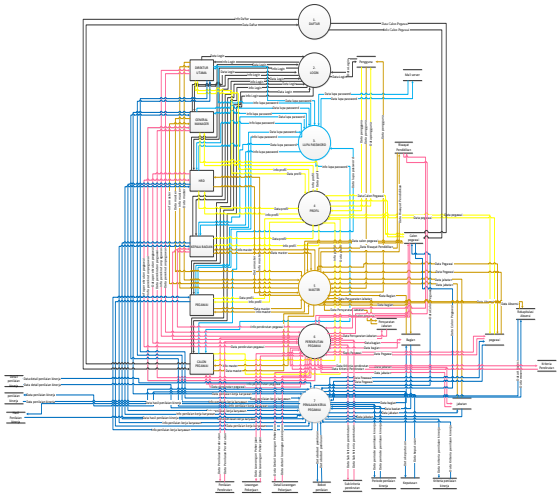
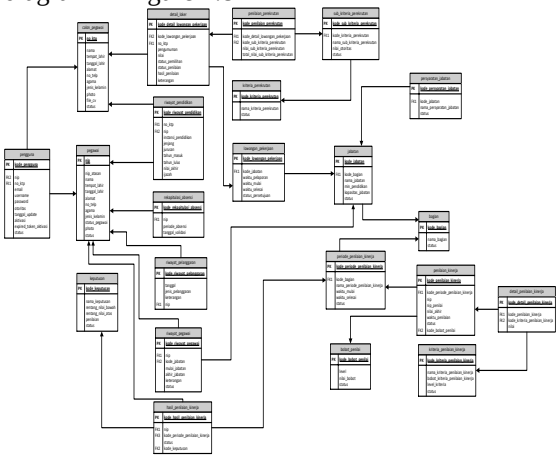


Figure 2. 7 DFD Level 1

2.6 Relationship Diagram

In data modeling, entities presented with entity tables in the E-R diagram are written in a table framework containing the attributes called the relation scheme. The creation of entity tables is always guided by the provisions on how to compile tables. So that the entity table structure will be obtained which is a table that is free from the existence of data. The following is the relation diagram in Figure 2.8



Gambar 2. 8 Diagram Relasi

2.7 Interface Design

Interface design is a design that explains all the state of the interface that is in the system, such as the following figure 2.9:

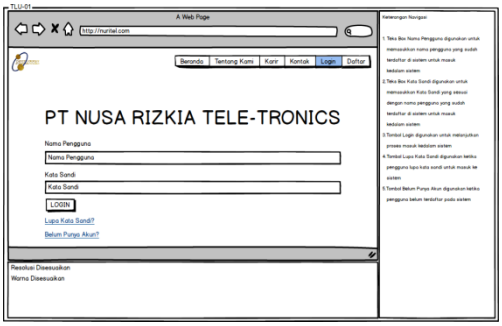


Figure 2. 9 Login page

2.8 Semantic Network

Semantic networks describe the connection between menu navigation between one page and another page. The connection of navigation on each menu of this system can be seen as shown in Figure 2.10:

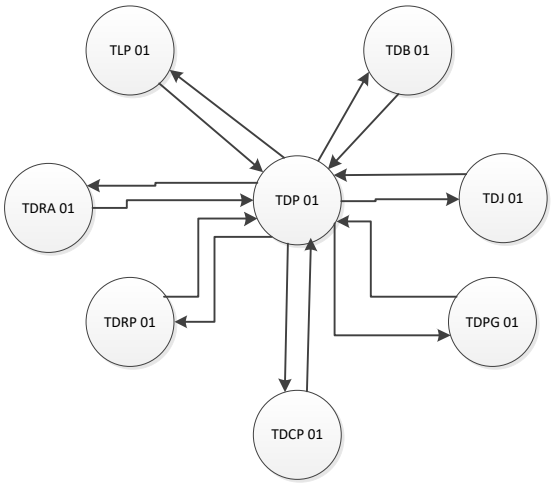


Figure 2.10 Semantic Network

2.9 System Testing

System testing is an important thing that aims to find errors or shortcomings in the personnel management information system at PT. Nusa Rizkia Tele-Tronics. The test intends to find out the personnel management information system that has been made to meet the criteria in accordance with the design goals.

The test used to test the new system is black box testing. Black box testing focuses on testing the functional requirements of information systems.

The test plan that will be carried out is by testing a system built in black box and beta. Testing the development of the personnel management information system at PT. Nusa Rizkia Tele-Tronics Head Office in Bandung uses test data based on the data provided from some data that has been given.

A. Blackbox testing

Black box testing is focused on the functional requirements of the software that is built. Examples such as login testing in the following table 2.3:

Table 2. 3 Login Testing

Cases and Test Results (Data True)			
Input Data	Which are expected	Observation	Conclusion
Username : HRD Password : Hrd	Enter on the page according to user access rights	HRD Can Perform Data Processing In Accordance With HRD Access Rights	[√] Accepted [ ] Rejected
Cases and Test Results (Incorrect Data)			
Input Data	Which are expected	Observation	Conclusion
Username : HRD Password : Hrd	Cannot Login And Will Display Message "Sorry, User Name / Wrong Password, Please Try Again"	HRD Cannot Login And Access Is Denied And Displays Message "Sorry, User Name / Incorrect Password, Please Try Again"	[√] Accepted [ ] Rejected
Cases and Test Results (Blank Data)			
Input Data	Which are expected	Observation	Conclusion
Username : Password :	Cannot Login And Will Display A Message "User Name and Password Can Not Be Blank"	HRD Cannot Login And Will Display Message "User Name and Password Can Not Be Blank"	[√] Accepted [ ] Rejected

B. Beta Testing

Beta testing is a direct test in the real environment. Users assess the system by interview method. The interview results can be used as a conclusion of the system to be built in accordance with the objectives or not appropriate.

Interviews are conducted for system users consisting of the President Director, Head of Section, HRD, Employees and Prospective employees. This research was conducted at PT. Nusa Rizkia Tele-Tronics Bandung in order to know the extent to which the system built can be a solution and solve the problems presented.

3. CLOSING

3.1 Conclusions

Based on the description of the analysis of the analysis that has been carried out, it can be concluded from the Development of the Personnel Management Information System at PT. Nusa Rizkia Tele-Tronics as follows:

1. This personnel management information system has been created and will assist HRD in determining the number of

employees based on the needs or vacancies in each position.

2. This personnel management information system has been created and will assist the Head of Section in evaluating the performance appraisal of employees who can assist in determining the promotion and dismissal of the criteria that exist in employees.

3.2 Suggestions

Based on the entire process in the development of this personnel management information system, the following advice given in the further development of the system is to improve and develop a wider system for the needs of the parties concerned in the management of the company from the top to operational to produce better results for next research.

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