

Decision Support System of Employee Performance Evaluation

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Abstract: *Employee Performance Evaluation at CV Artha Mandiri Pringsewu is still done manually, without a computerized system, so that it faces obstacles to obtain actual and accurate information. In order to be successful in business today, CV. Artha Mandiri needs information system that can support decision making and various information. Problems that often occur in the process of employee performance appraisal include the decision-making subjectivity, especially if several existing employees have abilities that are not much different. The use of decision support systems is a solution to reduce subjectivity in decision making designed with Visual Basic 6.0 programming, The calculations were performed on all criteria for all employees, so it is expected that employees with the best abilities are selected. Decision support system is supported by a descriptive method in the development of system software with Waterfall model. The calculation process is carried out to determine employee recommendations in the Promotion System based on 3 aspects namely Intellectual Capacity, Work Attitude and Behavior. The result of this process is employee ranking. This ranking is the basis for decision makers to choose employees who are suitable in the vacant positions that are expected to help evaluating the performance of employees at CV Artha Mandiri.*

Keywords : *Performance Evaluation, Decision Support System, , Visual Basic. 6.0, CV. Artha Mandiri.*

I. INTRODUCTION

1.1 Background

The development of Information Technology makes decision making more quickly and accurately [1]. The use of computers has evolved from merely processing data and presenting information until be able to provide choices to support decision makers [2].

This is may be caused to the development of hardware

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technology accompanied by software development, as well as the ability to assemble and combine several decision-making techniques in it [3]. The integration of hardware, software, and knowledge as an expert that produces Decision Support System (DSS) more quickly and accurately [4].

In order to be successful in business today, CV. Artha Mandiri requires information system that can support the needs of decision making and various information from managers and practitioners [4]. In companies or agencies that have a large number of employees in the evaluation process (evaluation) [5]. Employee performance is relatively often done so the company requires standard procedures in determining the requirements for an employee to get a promotion or occupy certain positions in the company [6].

Some problems that occur in the CV. Artha Mandiri Pringsewu namely in the process of evaluating employee performance including the decision-making subjectivity will be felt, especially if some of the existing employees have abilities (and several other considerations) that are not much different [7]. The problem that arises at this time is if the evaluation process (assessment) is complicated, what happens now generally is that there are employees who get direct promotions that only look at the first criterion, but the employee is not necessarily superior to several other criteria, but still get a promotion for promotion [8]. Though it can happen that an employee who is in the first criterion does not pass, but only then will be seen his strengths in subsequent criteria. It is understandable that the sequential set of criteria aims to reduce the complexity of the decision making process because of many alternatives [9].

For employees of CV Artha Mandiri, the results of this assessment can be used to provide feedback on work achievement so that they have a basis for consideration for planning career development [10]. Whereas on the other hand the results of this assessment can be used by companies to base decision-making in terms of reward system (compensation), placement (promotion, transfer, demotion and pension), training, career planning, and determining selection criteria [11].

With this, the author tries to design an application to support employee performance evaluation decisions at CV. Artha Mandiri that is for promotion so that it can be used as feedback on work performance, so that employees have a basis for career planning development [12].



1.2 Problem Formulation

Based on the background above, a problem can be formulated, namely: How to design a system ? in this case a software that can help evaluating employee performance for promotion at Cv. Artha Mandiri.

1.3 Scope of Problem

The of the problems contained in this study was : Decision Support Systems is Only To evaluate employee performance at CV. Artha Mandiri for promotion.

1.4 Objective

The objectives of this research :

- Provide convenience for employees at CV Artha Mandiri in job promotions and companies in employee performance evaluation for job promotions
- To impelement an expert system for decision making in evaluating employee performance for promotion at Cv. Artha Mandiri..

II. LITERATURE REVIEW

2.1. Concept of Information System

System is a network of interrelated procedures, works together to carry out an activity or to complete a specific goal [13]. Another term of a system is a collection of elements - each element interacts or influences each other to realize a joint activity [14]. A system has a goal or target. Objectives are usually associated with narrower scope [15]. The goal of the system is to determine the input and output that will be generated [16]. The system is said to be successful if it can achieve its goals and objectives. Whereas information is said to be valuable if it has benefits that are more effective and efficient compared to the cost of obtaining it. Information can be generated from information systems that is also called processing system or information processing system or information generation system [17]. Information is data that is processed into more useful and meaningful forms for those who receive it. The source of the information is data that is a plural word from datum [18]. Data is a reality that regulates a real situation. Information system is a system consisting of components or blocks that interact with each other to form a unity to achieve the goal.

2.2. Decision Making Process

There are 4 phases in the decision making process:

a. Intelligence phase

This stage is the process of tracing and detecting the scope of the problem and the process of problem recognition. Data entered is obtained, processed and tested in order to identify problems.

b. Design phase

This stage is the process of finding, developing, and analyzing alternative actions that can be done. This stage includes the understanding the problem, deriving the solution, and testing the feasibility of the solution.

c. Choice phase

At this stage, the selection process is carried out among various alternative actions that might be carried out. The election results are then implemented in the decision making process.

d. Implementation phase

This stage is the implementation of the actions of the phases specified above.

2.3. Performance Evaluation

Evaluation / assessment / measurement in the accounting dimension means comparing a particular object and giving numbers to the object according to certain ways.

There are various definitions of performance, some experts say that performance or implementation. In principle, performance can be concluded as a contribution that can be given by a unit / division for the achievement of company goals. So that at the division / unit level of performance evaluation / evaluation, the aim is to:

- Determine the contribution of a unit / division in the company to the overall company organization
- Provide a basis for evaluating the quality of the division manager's achievements in the company.
- Give motivation for unit / division managers in managing divisions in tune with the company's general goals.

2.4. Definition of Visual Basic 6.0

The word "visual" refers to the method used to create a graphical user interface (GUI). The word "Basic" refers to the BASIC (Beginners All-Purpose Symbolic Instruction Code) language, a language used by many programmers compared to other languages in computer history.

Microsoft Visual Basic (often abbreviated as VB) is a programming language that offers an Integrated Development Environment (IDE) that contains commands that can be understood by computers to carry out tasks. The task can be run if there is a response from the user. The response is in the form of certain events. For example selecting a button, menu and so on.

Visual Basic has become the most popular Visual programming language and is easy for the beginners to learn.

Although it is often underestimated by programmers who are familiar with other high-level languages, Visual Basic is able to dominate the Visual programming. Microsoft Visual Basic is a visual programming application that has a quite popular and easy to learn.

III. RESEARCH METHODOLOGY

3.1. Research Methodology

The data collection and information methods used were as follows:

3.1.1. Method of Expert System Development

The research method used in this study was descriptive methods, the research is limited to reveal a problem with the situation, so that it is only a disclosure of facts. In writing this research the system software development model



that the author uses is linear sequential model or Waterfall Model.



Figure 1. Waterfall Paradigm

3.1.2. Data Collection Method

Data collection methods used in writing this research were :

1. Primary Data

Primary data is data collection method directly from research object [19]. The methods used to collect primary data were :

- a. Interview
- b. Literature Review
- c. Observation

2. Secondary Data

Data collection method was done by reading and studying books, articles, writings on the internet that have to do with the problem that will be discussed in this study [20].

3.2. Library Research

That is the research carried out based on data obtained from theories, it can be obtained from supporting books related to the topic taken as a comparison material or basis for further discussion, as well as to obtain the theoretical base of the developed system [21].

3.3 User Interface

The user interface is the link between the program and the user [22]. User will connect with the server through a program created using the Visual Basic programming language.

3.4. Research Process

Criteria for the Needs of a Decision Support System for Employee Performance Evaluation [23] can be seen as follows;

a. Intellectual Capacity Variable, Intellectual Capacity variable that is common sense (Healthy Mind), verbalizing ideas, Systematic thinking, Reasoning and real solutions, concentration, Practical Logic, Thinking Flexibility, Creative Imagination, Anticipation, Intelligence Potential (IQ).

b. Work attitude variable, Work Attitude namely Physical Energy , Accuracy and responsibility, Attention, Control of feelings, Encouragement of achievement, Vitality and planning.

c. Behavior Variable, Behavioral Variable Criteria are Dominance (power), Influences (influence), Steadiness (determination), Compliance (Fulfillment).

Description of the criteria of the variable that has been determined:

Table-I: Description of Intellectual Capacity

<i>Intellectual Capacity</i>	<i>Score</i>
Common sense	1 - 5
Verbalizing idea	1 - 5
Reasoning and real solutions	1 - 5
Concentration	1 - 5
Practical Logic	1 - 5
Flexibility of Thinking	1 - 5
Creative Imagination	1 - 5
Anticipation	1 - 5
Intelligence Quotient (IQ)	1 - 5

Table-II: Description of work attitude

<i>Work Attitude</i>	<i>Score</i>
Physic Energy	1 – 5
Accuracy and responsibility	1 – 5
Emotion Control	1 – 5
Achievement Motivation	1 – 5
Vitality and planning	1 – 5
Circumspection	1 – 5

Table-III: Description of behavior

<i>Behavior</i>	<i>Score</i>
Dominance	1 – 5
Influences	1 – 5
Steadiness	1 – 5
Compliance	1 – 5

Table-IV: The Number of Variable Description

<i>0</i>	<i>Quality</i>
5	Very good
4	Good
3	Pretty Good
2	Less Good
1	Bad

Information on the number of ratings, namely:

Intellectual Capacity + Work Attitude + Behavior = Amount obtained.

Total Amount

IV. REQUIREMENT ANALYSIS AND DESIGN

4.1. Requirement Analysis

Requirement of Hardware

<i>No</i>	<i>Requirement</i>	<i>specification</i>
1	Processor	Intel Core i3
2	Memory (RAM)	2 GB
3	Harddisk (Space)	500 GB
4	Modem (connection)	100 ps



The Requirement of Software

- a. Windows 7
- b. Macromedia Dreamweaver 8
- c. XAMPP
- d. Adobe Photosope CS3
- e. Microsoft Office
- f. Notepad
- g. Browser Mozilla Firefox

4.2. Input Requirement

Input requirement from Supporting System of Performance Evaluation Decision Support is as follows:

- a. Login Input of operator/user, input, edit, delete.
- b. Criteria input of intellectual capacity, work attitude and behavior

4.3. Output Requirement

Output Requirement of this Performance Evaluation Support System Support by Providing user information on the evaluation submitted by the system will then be the input to determine the results of the analysis.

4.4. System Design

4.4.1. Flowchart Diagram

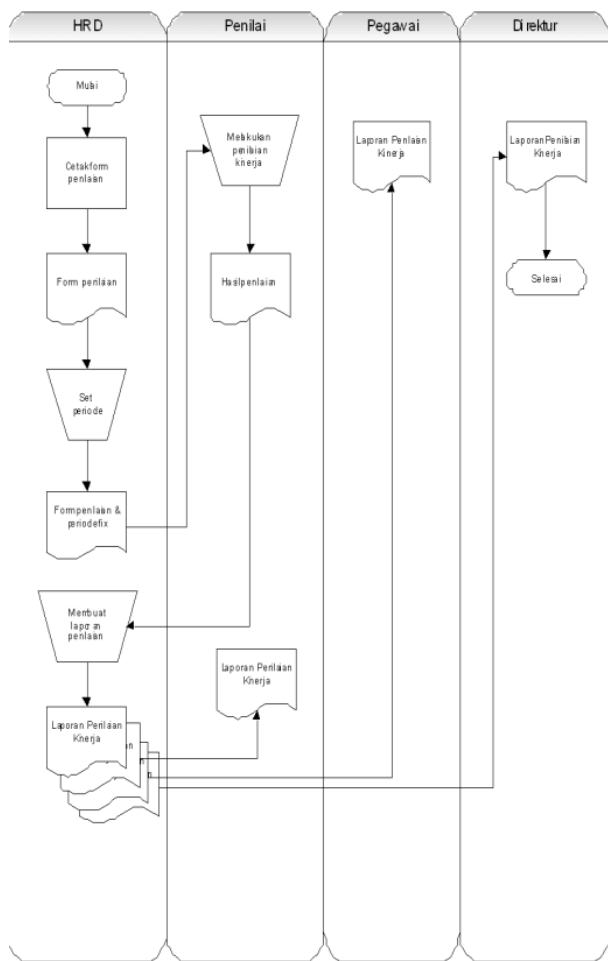


Figure 2: System Flowchart

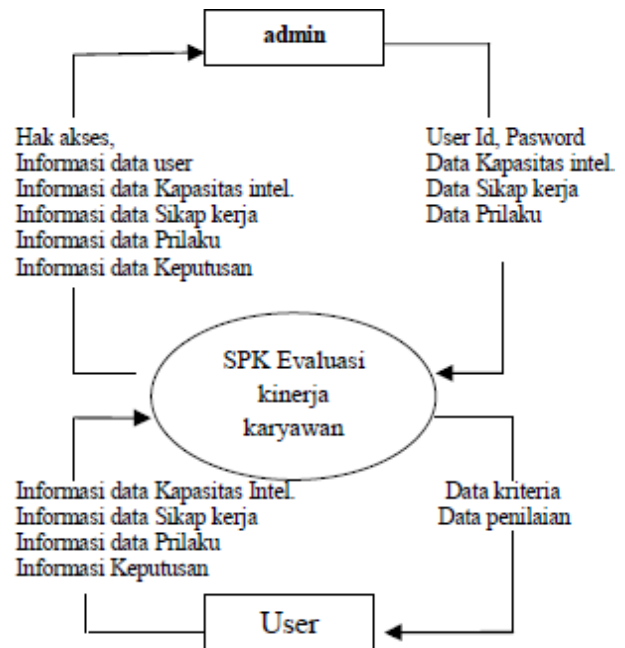


Figure 3. Context Diagram

4.5 Implementation

After the design process is completed, it continued with the implementation of the design produced in the form of a programming language to be understood by computers.

Application Display

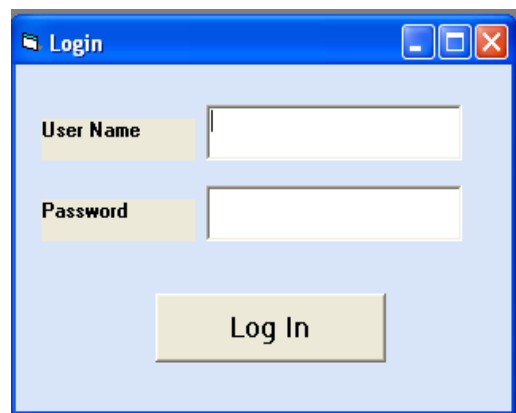


Figure 4: Login

Figure 2. Main Menu

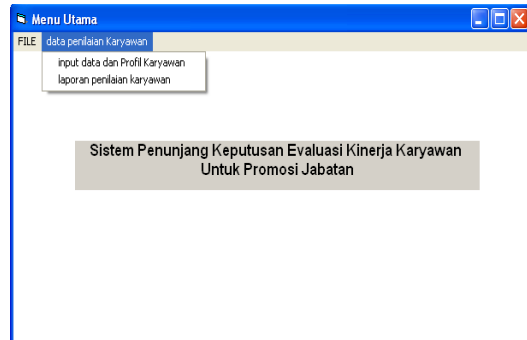


Figure 5: Employee Profile Input Before Run

Figure 6: Employee Profile Input after Run

Figure 7: Employee Performance Assessment Report

NIK KARYAWAN	NAMA KARYAWAN	Kap. Intel.	Sikap Kerja	Prilaku	Jumlah
K1001	AYU FITRIANI	37	20	15	72
K1002	HERY PURWANTO	34	22	14	70
K1003	MERRY ANDRIANI	36	19	16	71
K1004	ANU SURAWATI	32	20	13	65
K1005	SARI PUSPITAWATI	30	20	15	65

After the application was designed then performed the test. Test was done to test the application whether the application is in accordance with what is needed, such as a security system for various input performance evaluation data.

V. CONCLUSION AND SUGGESTIONS

5.1. Conclusion

Based on the results. it can be concluded several as follows:
1. This system has been successfully created and can be used as a tool to evaluate employee performance for job promotions.
2. Application of performance decision support systems is very flexible and efficient.

3. The results of decisions made by this application were in accordance with the standard of analysis entered by the user in terms of employee performance appraisal.

4. By this application of decision-making system, it can help companies, agencies or schools in evaluating employee performance.

5.2. Suggestion

In this Decision Support System Application it is recognized that there are still many shortcomings and weaknesses, therefore for further development it is recommended:

1. In data or reports input it should be carefully examined so that there are no errors in the delivery of information to those who need the information.
2. It can be added other variables.

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