



Application of Rating Scale Method to Design and Construct an Employee Performance Assessment Application System in National Charity Institutions

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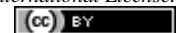
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Abstract

This research aims to find out how to design and build an employee performance assessment information system using the rating scale method. The data collection methods used were observation, interviews, and literature study. The research used the rating scale as the employee performance assessment method. The author used the Rapid Application Development (RAD) method in system development. The researcher designed an employee performance assessment information system using UML (Unified Modeling Language) tools at this stage. In this stage, the system is built using the PHP and MySQL programming languages for the database. The research results show that the developed performance appraisal system can provide significant benefits in monitoring employee performance more efficiently. Using this system makes the performance appraisal process easier, reduces file buildup, and increases the speed of the process from one week to only three days to complete the appraisal report. A data collection center also provides additional value by ensuring the security and orderliness of information.

Keywords: Information System, Assessment, Employee Performance, Rating Scale.

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1. Introduction

The process of specifying something that will be done in various ways is called design or drafting. It includes an architectural description, component specifics, and an understanding of the restrictions encountered during the work process. The process of developing software in detail, comprising programming, program verification, unit testing, integrated testing, and debugging, is called software development [1]. After a software development project's analysis and design phases, the software development stage is the project implementation phase. Design is a set of steps that convert a system's analysis findings into a programming language so that the implementation of the system's parts may be explained in detail. A system comprises interconnected parts or components that help information move [2]. Any tangible assembly or connected part functions harmoniously to accomplish a particular objective. Components, system boundaries, the environment outside the system, connections, input, output, processing, and goals or objectives define a system [3]. Informer is a term from informal, which refers to communication and knowledge-related activities [4]. A part of an organization that deals with the creation and exchange of information is known as an information system. Information systems can help administrative leaders analyze problems, describe complex matters, and create new products or services [5]. Information system activities are input, processing, and output. Organizational members use information systems to receive feedback and conduct evaluations or corrections [6].

Human resources or HR are the individuals who create and manufacture goods and services, keep an eye on quality, promote products, distribute funds, and create all of the company's plans and objectives. It is hard for a business or organization to succeed without competent and knowledgeable personnel. Other resources cannot function without human resources [7]. Even with all its benefits, a firm or organization cannot achieve maximum productivity and profitability without communication among highly qualified, competent, and committed people. Human resource management, or HRM, is a managerial activity encompassing people's use, growth, evaluation, and payment as distinct members of businesses or organizations. Planning systems, employee management, career management, performance review, employee competency, and employment relations are other aspects of human resource management [8]. The actions taken to ensure that an organization's human resources are used effectively and efficiently to meet various organizational objectives are collectively referred to as human resource management [9].

Employees are essential human resources and play a crucial role in organizational collaborative efforts. Employees are individuals a specific institution hires, whether a government entity or a business organization. This definition states that as employees' tasks determine whether the organization's goals are achieved, they are regarded as its primary capital [10]. An evaluation determines something or someone's qualities based on various data. When an individual fulfills their assigned obligations, they produce high-quality work products. The degree to which workers satisfy the requirements of their jobs is known as their performance [11]. The degree of success that employees attain in completing tasks about specified and mutually agreed upon standards, targets, goals, or criteria is known as employee performance. A person's entire performance during a given period in completing duties includes work standards, targets, objectives, or criteria that have been predetermined and decided upon in advance [12]. The definition of performance, if it relates to performance as a noun and one of the entries is the outcome of a job, is the result of work completed by an individual or group of individuals in an organization following their respective authority and responsibilities to achieve the company's goals in a way that is appropriate, legal, and does not conflict with morals or ethics [13].

Employers evaluate employee performance via performance evaluation, sometimes referred to as performance appraisal. This will significantly impact workers, managers, the HR division, and the business if appropriately implemented. Managers and supervisors must assess performance to choose the best course of action. They can decide on career planning, training and development, pay raises, promotions, and other placement decisions with the help of specific feedback [14]. Therefore, the organization conducts performance reviews to systematically investigate workers' working environments connected to preset work requirements [15]. In actuality, performance reviews use remarks related to a manager's observations of staff members regarding the task, which is connected to conduct at work, as an assessment tool. The system for evaluating performance is made up of several components. Work standards are necessary for the performance appraisal system since they are benchmarks for gauging performance. The criteria must be connected to a task's anticipated outcomes to be effective [16]. Having written documentation of the standards is vital to hold every employee responsible for their responsibilities [17]. Before the evaluation takes place, communicate this standard to employees. Ideally, the performance assessment of each employee is based on actual performance on critical elements identified through job analysis. The benefit of performance appraisals for all parties is that they know the benefits they can expect. The parties involved in the assessment include the employee being assessed, the assessor (superior, supervisor, leader, manager, consultant), and the company [18].

The rating scale method is often considered a subjective method, but this method is most widely used in assessing and evaluating employee performance [19]. This performance appraisal technique is the oldest since it requires assessors to assess employee job results on the lowest to the highest scales. The assessor will provide a figure illustrating the difference between better and worse performance. The oldest and most popular approach is the rating scale method, in which supervisors or superiors evaluate employees based on traits including initiative, reliability, maturity, and contribution to work goals [20]. Expert evaluations are based on their judgments, and frequently, the standards have little to do with the task output. Generally speaking, appraisers are provided with a form to complete that lists several attributes and work-related characteristics, like independence, initiative, attitude, cooperation, etc. Typically, superiors finish appraisals and decide which opinion is appropriate for each work production level [21]. Quantitative values representing the average value are assigned to the assessor's opinion, which is subsequently computed and contrasted. The amount of weights attained may impact the pay increase; therefore, the same number of weights may affect a different proportion [22]. This assessment method is straightforward and can easily be supplemented with supporting documents. The advantages of this method are that it is low-cost to use and develop, appraisers require little training or time to perfect existing forms, and many employees can use this method. There is also a weakness of this method, namely deviation; in this case, the assessor's prejudice will usually appear in their subjectivity in this method.

2. Research Methods

Researchers carry out various data collection methods according to the research objectives to support the need for research data. The data collection methods used were observation, interviews, and literature study. The researchers used the rating scale as the employee performance assessment method. Appraisers are required to assess employee performance directly on specific scales, from the lowest to the highest. The marketing manager carries out the performance assessment. The author used the Rapid Application Development (RAD) method to analyze, design, and implement the system in system development. The author uses the RAD development method because using this method shortens the process and can use existing codes, for example, by using templates. The stages carried out by researchers are: In requirement planning, several steps are taken to identify the needs and objectives of the system to be built. Workshop design: at this stage, the researcher designs an employee performance assessment information system using UML (unified modeling language) tools per the needs and objectives identified at the requirements planning stage. Implementation: this stage consists of two

stages: implementing the system into a programming language (coding) and the system testing stage. In this stage, the system is built using the PHP and MySQL programming languages for the database.

3. Results and Discussion

This research was carried out by collecting data through various methods, including observation, interviews, and literature studies related to performance assessment. The analysis results show that the systems currently used in performance assessment are still far from the desired level of automation. The decision to appoint an employee as a permanent employee or not depends entirely on their period of service, without considering other aspects that may be relevant. Based on these findings, researchers identified several critical problems in the current system. First, there is no centralized employee database, resulting in difficulties managing employee information. Second, the vulnerability of file loss makes the performance assessment process difficult. Third, employees do not have access to view their performance evaluations for a monthly period. Lastly, performance reporting to directors still uses conventional methods with paper documents. As a solution, researchers propose designing an integrated performance assessment information system. This system is designed to facilitate the process of employee performance assessment and reporting and increase transparency by involving the personnel department, directors, and employees. We hope that implementing this system will overcome the identified problems, increase efficiency, and provide more accurate information for making decisions about employee performance appraisals.

Designing a computerized information system is an urgent need to improve performance, especially in terms of employee performance reporting. This system will facilitate effective employee performance assessment data management to produce informative and relevant reports. Explanation of the mapping procedure for the proposed system design: First, the personnel department will be responsible for inputting and processing employee data into the system. This includes personal information, employment history, and other data necessary for performance appraisal. Second, the personnel department will continue performing performance assessments every month. This process will include evaluating various aspects of employee performance, providing a solid basis for career development and employee welfare decision-making. The system will centralize the collected data, ensuring continuity of information and facilitating efficient access. Fourth, this system will allow directors to view employee performance appraisal reports quickly and accurately. Thus, directors can make strategic decisions based on current and relevant data. Fifth, this system also allows employees to manage their personal data and view performance assessment reports directly. This creates transparency and will enable employees to be actively involved in collecting and improving their performance. Designing this computerized information system will optimize operational efficiency, increase accuracy in employee performance reporting, and create a transparent and participatory work environment.

The researcher observed several actors involved in the performance assessment process who played a crucial role in using the performance assessment information system. These actors involve the personnel department, director, and employees, each with roles and responsibilities. The personnel department is the first actor involved in this system. They are responsible for managing employee data, including adding, changing, and deleting employee information in the system. Apart from that, they are also responsible for processing indicator data, processing variable data, and assessing employee performance. Thus, the personnel department plays a crucial role in ensuring the integrity and accuracy of the data required for performance evaluation. The director is the next actor with access rights to view all employee data and performance reports. The director's responsibilities involve making strategic decisions based on the gathered information. This access allows directors to identify performance trends, access real-time data, and make informed decisions.

Meanwhile, employees are the third actor who has access rights to view their personal performance reports and change personal data as needed. By providing this access to employees, the system encourages transparency and active involvement in understanding and improving their performance. Through the participation and clearly defined roles of the personnel department, directors, and employees in this performance appraisal information system, it is hoped that it can increase the efficiency, accuracy, and involvement of all parties involved in the employee performance appraisal process.

The first activity diagram asks the director, personnel department, and employee actors to fill in their username and password as a first step. The system will issue a warning for the error if the username and password are entered incorrectly. However, if the login information is correct, the system will display the system's main (home) page. Furthermore, users can access the menus provided according to their respective access rights. In the activity diagram for processing employee data, the Personnel Department is the actor involved. The actor enters the system, selects the employee menu, and faces various menu options, such as inputting, editing, deleting, and viewing employee data. Actors can perform these operations according to their needs and authority. In the activity diagram for processing variable data, the first step is for the actor to be in the variable processing menu. Furthermore, actors can choose activities such as adding, changing, and deleting variable data according to their duties and responsibilities. While in the activity diagram processing indicator data, actors are also asked to enter

the indicator processing menu. Furthermore, actors can choose activities such as adding, changing, and deleting indicator data according to their needs. In the activity diagram for processing employee assessments, which involves the personnel department, the first step is for the actor to be on the employee assessment menu. Next, actors can select activities, such as adding or removing employee ratings. To add an employee assessment report, the actor must enter and save data according to the requirements. If an error occurs or the data is invalid, the system will provide the appropriate information and return to the previous page. This process clarifies the steps that each actor must take to carry out their functions and responsibilities in the employee performance assessment information system.

The activity diagram "view monthly report" illustrates a user's steps to view an employee's monthly report. First, the user must enter the "process assessment report" menu. Next, the user selects the "view monthly report" option, and the system will display employee assessment report data according to employee ID and name. Additionally, users can print monthly reports by pressing the print button, allowing them to have a physical copy of the report. The activity diagram "view annual report" explains user activities in viewing employee annual reports. The first step is the same as before, namely, the user enters the "process assessment report" menu. Then, the user selects "view annual report" and chooses the assessment period. If the data is available, the system will display the employee's annual report according to the employee's ID and name. However, if the assessment period is unavailable, the system will provide a message that the data is unavailable. Actors also have the option to print the annual report by selecting the period and the employee then pressing the print button. The activity diagram "view employee data" shows that all actors, including the personnel department, directors, and employees, can view employee data by entering their username and password into the system. After logging into the system, the actor selects the "employee" menu and then selects the "employee data" option. This makes it easier for them to view employee-related information they may need. The activity diagram "Employee changes profile data" describes employees' steps to change their profile data. After logging in by entering the username and password, the employee selects the "edit" button, enters new data, and presses the "save" button. This way, employees can update their profile information as needed. Finally, the "logout" activity diagram depicts the procedure for exiting the system. Users can press the "logout" button, and the system will automatically end their session and display the login page. This ensures access security and user privacy when they leave the system.

The "login" sequence diagram shows an actor's steps to log in to the system. The system first asks actors to fill in their username and password. The system will display a warning message if the entered information is incorrect. However, if the login succeeds, the system will display the main page, and users can access menus according to their positions. The sequence diagram "processing employee data" illustrates how the actor enters the employee menu after entering the system's main page and selects the options he wants to do, starting from inputting employee data, editing employee data, deleting employee data, and viewing employee data. Actors can perform these operations according to their needs and authority. The sequence diagram "processing employee assessments" provides a view of the activities of the personnel department. The first step involving actors is in the employee assessment menu. Next, actors can select activities, such as adding or removing employee ratings. To add an employee assessment report, the actor must press the add employee assessment button, enter data as needed, and save it by pressing the save button. This process also provides the option to delete employee assessment data by pressing the delete employee assessment button. Sequence diagram: "Processing employee variable data" involves the head of civil service logging into the system using a username and password and then selecting the variable menu. The system will display an inconsistent data form, and the head of the civil service can enter the variables needed for employee performance assessment.

Meanwhile, the sequence diagram "processing employee indicator data" also involves the head of the civil service entering the system. The head of the civil service can enter indicators that will be used in assessing employee performance after selecting the indicators menu and displaying the indicator data form by the system. Thus, this sequence diagram shows the steps and interactions between actors and systems in carrying out various functions related to employee data management, performance assessment, variables, and indicators.

The "edit employee profile" sequence diagram visualizes the procedures employees must follow to change their profile data. After logging in by entering the username and password, the employee selects the "edit" button. Next, the employee enters new data and clicks the "save" button. Employees can update their profile data according to their needs. The sequence diagram "view monthly report" shows the steps taken by a user to view an employee's monthly report. The user must first be in the "process assessment report" menu and then select the "view monthly report" option. The system will display employee assessment report data based on employee ID and name. The sequence diagram "view annual report" explains the user procedure for viewing an employee's annual report. Once in the "process assessment report" menu, the user selects the "view annual report" option and then selects the assessment report period. If the data is available, the system will display the employee's annual report according to the employee's ID and name. However, if the assessment period is unavailable, the system will provide a message that the data is unavailable. The sequence diagram "employee data" illustrates that all actors, including the personnel department, directors, and employees, can view employee data by logging into

the system using their username and password. After logging into the system, they select the "employee" menu and the "employee data" option to view the required information. The "logout" sequence diagram explains how all actors exit the system. Pressing the logout button immediately goes to the system and redirects the user to the login page, securing their access and privacy after leaving the system.

The author carried out database mapping at the database design stage to provide a clear view of the structure and relationships between tables required in the employee performance assessment information system using the rating scale method. This mapping database provides a strong foundation for designing an efficient and structured database, making it easier for authors to organize data and maintain the integrity of information in the employee performance appraisal system. Next, the interface design stage focuses on creating a system appearance design. This interface is designed to make it easier for users to interact with the employee performance assessment information system. Authors can improve the user experience and ensure intuitive navigation by developing a user-friendly system display. This aims to ensure that every user, including the personnel department, directors, and employees, can easily understand and use the system's functionality, from data input and performance assessment to viewing monthly and annual reports. This design approach aims to provide added value for users of the employee performance appraisal system in terms of efficiency, accuracy, and active involvement in the employee performance appraisal process. Apart from that, this design also considers data security and information integrity aspects so that the system can operate well and provide optimal support in managing employee performance.

The interface design of the employee performance assessment information system, which utilizes the rating scale method, meets the needs of the personnel department, employees, and directors. The personnel department, employees, and directors can access the system by logging in using the username and password they already have. Upon successful login, the system will direct each person to the main page based on their assigned access rights. The main employee menu page allows employees to view and manage their data. Through the "personal data" menu, employees can view and edit their personal information in case of input errors encountered by the personnel department. The "appraisal" menu also allows employees to view their performance appraisal data. After logging in, the personnel section accesses the main personnel page, which offers various menus, including "input employee data," "edit employee," "delete employee data," and "employee data report." In addition, the "employee assessment" menu processes employee performance assessment data. The design also includes a unique page for entering new employee data, simplifying managing employee information. The employee data edit page allows not only the employees themselves but also the personnel department to make changes to relevant employee information. In addition, the page for deleting employee data manages information about no longer active employees. Thanks to this detailed interface design, it is hoped that each user can easily interact with the system, access the necessary information, and efficiently carry out tasks related to employee performance assessment in accordance with their access rights.

During the implementation stage of the employee performance assessment information system, we used the PHP programming language to build system functionality and logic and MySQL to store and manage employee performance information. The combination of PHP and MySQL is a common choice in web application development because both offer reliability, ease of integration, and extensive community support. Next, at the system testing stage, we use black box testing to test system functionality without knowing its internal implementation. Black box testing aims to evaluate whether the system receives input correctly, processes data appropriately, and produces output according to user expectations without knowing its internal implementation. Black box testing estimates whether the system correctly receives input, appropriately processes data, and has production according to user expectations. In black box testing, the main focus is on the functional aspects of the system, including login, employee data management, performance assessment, and user interface display. This testing includes test scenarios that reflect actual use, such as testing the correctness of the login process, employee data management capabilities, and the accuracy of performance assessment results. This testing process aims to ensure the system can function according to established specifications without exposing the internal implementation. Using the black box testing method, and you can minimize testing bias and provide an objective picture of system quality and performance. In further development, test results will be the basis for identifying and fixing bugs or discrepancies between the expected results and those produced by the system. These testing and improvement steps are repeated iteratively until the system achieves the desired level of quality and reliability before full rollout to users.

4. Conclusion

Based on the results of the research that has been carried out, it can be concluded that the performance appraisal system that has been developed makes it easy to monitor employee performance through system implementation. This system's existence positively contributes to facilitating the performance assessment process, reducing file buildup, and speeding up the evaluation process. Previously, the performance appraisal process, which took one week, can now be completed in just three days, indicating a significant increase in efficiency. In addition,

implementing this system also creates a comprehensive information collection data center, helping maintain data security and orderliness. This provides additional benefits for managing employee performance information more effectively, safely, and efficiently. With these positive results, further development is necessary to improve the quality and functionality of the performance appraisal system. Future research can focus on integrating new features supporting comprehensive human resource management and implementing technology that can optimize system performance, such as artificial intelligence or advanced data analysis. This development effort can provide a more innovative and comprehensive employee performance appraisal management solution. Based on these conclusions, we can propose several suggestions for further research. First, this performance appraisal system can be further developed by integrating other functions, such as the payroll system, to create a more holistic platform for human resource management. Second, it is essential to consider developing a mobile version of the system to make monitoring and accessibility easier for mobile users. Third, further research could explore performance appraisal methods other than the Rating Scale method, such as checklists, critical incidents, essays, and ranking, to provide variety and flexibility in assessing employee performance. By further developing this system and exploring various performance assessment methods, we hope to provide a more comprehensive solution that can be adapted to the needs of foundations and technological developments.

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