



Application Of Rating Scale Method to Design An Employee Performance Assessment System in a Health Equipment Distributor Company

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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 in this research were observation, interviews, library research, and a literature study. The research utilized the rating scale as the method for assessing employee performance. The author used the Rapid Application Development (RAD) method in system development. The review and analysis confirmed this research's success in developing an employee performance assessment information system using the rating scale method. The successful implementation of this system has had a positive impact by providing a solution to the challenge of performance assessment that is less than objective. With the existence of an employee performance appraisal information system, companies now have tools that can reduce the level of subjectivity in performance appraisals. Using the rating scale method in this system provides consistent evaluation standards, increases assessment accuracy, and presents a higher element of objectivity. In conclusion, implementing the employee performance assessment information system opens up opportunities for continuous improvement in human resource management. With a focus on objectivity and measurability, this system has the potential to become an invaluable tool in achieving company goals and vision.

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

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1. Introduction

In this context, human resources refer to the individuals or staff members who create and manufacture items or services, keep an eye on quality, promote goods, distribute funds, and develop all business plans and objectives. The role that human resources play in a corporation is one of the most essential and crucial components in reaching its objectives [1]. High-quality and high-performing human resources will play an important role in the company achieving its goals. Considering the importance of human resources among other production factors, companies carry out education and training to improve employee skills and knowledge in order to achieve the expected performance [2]. High employee performance is expected to make a significant contribution to the company's performance and progress. The success of a company in improving its performance is very dependent on the quality of the human resources involved in their work, so companies need to have highly capable employees. Therefore, a performance evaluation is needed, commonly known as a performance appraisal, which is basically a process used by companies to evaluate the performance of their employees. There are several methods that can be used to assess employee performance, but in this research, the performance appraisal method used is the rating scale method [3]. With the rating scale method, assessments are conducted on certain scales, ranging from the lowest to the highest, to evaluate employee work results [4].

One of the laboratory equipment distributor companies is located in one city in Indonesia. There are several products offered by the agent, including tools, materials, and software for research and diagnostics. The company aims to become a leading and integrated laboratory and biotechnology solutions provider through qualified people and the best service to ensure customer satisfaction [5]. In this company, there are three units or sections, namely marketing, operations, and finance. Each unit or section certainly has an important task in achieving the company's goals. The operations department is generally tasked with handling company operational activities such as sending products to customers, the finance department is generally tasked with handling company finances such as making financial reports and the marketing department is generally tasked with offering and selling company products to customers [6]. Based on the duties of each section, which acts as a distributor selling laboratory equipment, the

company is, of course, very dependent on the results of offers and sales made by the marketing department. Therefore, currently, there is a performance assessment carried out only in the marketing department. The current performance appraisal process starts with the marketing employee making a daily report, then sending the daily report to the admin via email [7]. After that, the admin is tasked with checking the daily report via email and inputting the employee's daily report into Microsoft Excel. The report that has been input will be calculated by the admin to produce monthly reports and annual reports created by marketing managers using Microsoft Word [8]. In the current employee performance appraisal process, there is employee dissatisfaction with the results of employee performance appraisals, which occurs repeatedly every year because it is difficult for employees to directly supervise both daily reports, monthly reports, and annual reports. The results of employee performance appraisals will influence salary increases in the following year and serve as consideration for the promotion of a marketing employee [9].

Design in the context of software development, refers to a structured process for defining the project. The design process utilizes diverse techniques and encompasses a description of the architecture, along with details of the components used in software development. In addition, the design also involves identifying any limitations that may arise during the work process [10]. Software development, as the detailed work of software creation, includes a series of activities such as programming, program verification, unit testing, integrated testing, and debugging [11]. Programming involves writing program code according to pre-designed requirements. Design, in turn, is a series of procedures that lead to the translation of system analysis results into a programming language. In this stage, the detailed implementation of system components is determined according to needs and specifications [12]. Design also includes thinking about the performance, security, and scalability of the system being built. Overall, engineering plays a critical role in software development by ensuring efficient implementation of system analysis results in accordance with project objectives [13]. This process involves the collaboration of a team of developers to achieve optimal results in building software solutions that meet user needs and expectations [14].

Employees are the physical and spiritual human labor that is needed and are one of the main capitals in collaborative efforts within an organization [15]. Assessment is an assessment based on a number of facts to explain the characteristics of someone or something. Performance is the whole outcome of an individual's efforts during a given time period in completing tasks, such as goals, targets, objectives, or predetermined and mutually agreed upon criteria. Although the rating scale approach is most frequently used to measure and evaluate employee performance, it is frequently regarded as a subjective approach [16]. Assessors are required to carry out an assessment related to employee work results on certain scales, from the lowest to the highest, making this method the oldest one used in performance appraisal [17]. The assessor will provide a number that shows the difference between better and worse performance [18]. This assessment method is very easy to understand, and the assessment can easily be supplemented with supporting documents [19]. 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 this method can be used by many employees [20]. 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. To make the form applicable to various types of work, specific criteria may be omitted [21]. For example, equipment maintenance may be omitted because only a small number of employees do it, even though it is an important part of their job for some employees. This omission tends to limit specific feedback as well. Individual interpretations and prejudices influence this descriptive assessment. When specific work outcome criteria are difficult to identify, the assessment is based on the individual's personality, which is certainly not relevant, which ultimately weakens the meaning of the assessment itself.

2. Research Methods

The data collection methods used in this research were observation, interviews, library research, and a literature study. The researchers used the rating scale as the method for assessing employee performance in this research. Appraisers are required to directly assess employee performance results on certain scales, starting from the lowest to the highest. In system development, the author used the Rapid Application Development (RAD) method in analyzing, designing, and implementing the system. 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, there are several steps taken to identify the needs and objectives of the system to be built. Workshop design is an advanced stage of the requirements planning stage, so at this stage, the researcher designs an employee performance assessment information system in the marketing department of the company using UML (unified modeling language) tools in accordance with the needs and objectives that have been identified at the requirements planning stage. Implementation: this stage consists of two stages, namely the stage of 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

Business processes in companies today describe well-organized and coordinated steps. Everything starts with the marketing department, which actively offers company products to customers. Interested customers then place an order by submitting an order letter to the marketing department. The next step involves the admin department, which confirms the order after receiving information from the marketing department. The admin section then coordinates with the logistics section to ensure the availability of ordered goods in the warehouse. If the goods are available, the logistics department provides confirmation to the finance department, which then creates and sends an advance payment invoice to the customer. The process continues with sequential steps, including checking the availability of goods by the logistics department in the warehouse. If the goods are not in the warehouse, the logistics department places an order with the factory. The factory is responsible for delivering the ordered goods. After the ordered goods arrive, the logistics department again checks the suitability of the goods and provides confirmation to the finance department that the goods are available. Next, the finance department collects the remaining payment from the customer. The process closes with the delivery of the order by the logistics department to the customer's location. This entire process reflects a structured and efficient system for meeting customer needs and maintaining the company's smooth operations.

After understanding the ins and outs of ongoing business processes, it becomes evident that each part of the company plays a vital role in overall operations, including marketing, administration, logistics, and finance. This research, however, focuses its attention on the marketing department, considering their key role in offering and selling the company's products. The decision to assess employee performance in the marketing department has a strong foundation, in line with efforts to achieve the company's vision and mission. In this research, the author explores the system currently running in the marketing department, with a special focus on the employee performance appraisal process. The main objective of this system analysis is to get a comprehensive picture of the strengths and weaknesses that may exist in the employee performance assessment information system currently running in the company. At this stage, research involves observation and in-depth research of the problem object, namely looking at and observing the system that is running. Based on the results of this analysis, we will produce a new improvement proposal. We took this step with the hope of improving the employee performance appraisal system in the marketing department, making it more efficient, and aligning it with the company's needs and goals. This research aims to make a significant contribution to improving the performance and effectiveness of the marketing department. Furthermore, the proposed improvements aim to serve as a model for updating employee performance assessment information systems more broadly within the company.

The employee performance appraisal system currently running in this company describes a series of structured and integrated steps. Every day, active marketing employees send daily reports via email to the admin department. The admin section then checks the daily reports and inputs them into Microsoft Excel every day. A similar process continues for monthly performance appraisals, where the admin department periodically inputs employee monthly performance appraisals into Microsoft Excel. The admin section also has the responsibility to calculate performance assessments for each employee, both monthly and annually, using Microsoft Excel. After that, the admin section submits the monthly and annual performance assessment files to the marketing manager. The marketing manager takes the next step by creating monthly and annual employee performance appraisal reports using Microsoft Word. This process reaches its peak when the marketing manager submits monthly and annual employee performance assessment reports to the company director. The company director has the responsibility to submit employee performance assessment reports to each marketing employee. This entire system reflects a structured and transparent approach to managing employee performance appraisals in this company, starting from daily reporting to submitting reports to related parties.

The company's employee performance appraisal system faces several challenges that need to be considered. First, the process of sending and checking daily reports via email feels complicated and time-consuming because an admin has to manually check each email and carry out input and calculations using Microsoft Excel to get employee performance assessment results. As a result, the performance appraisal process was quite slow, taking almost a week. Second, the lack of centralized data storage makes it difficult for users to search for previous assessment data as a reference for the next assessment period. This creates obstacles to managing and analyzing employee performance data efficiently. Third, the absence of a track record function means that users cannot see the development of previous employee performance. The unavailability of this information can be an obstacle for managers and directors in making decisions regarding salary allowances, salary increases in the following year, as well as consideration for an employee's promotion. In facing this challenge, companies need to consider solutions that can increase efficiency, transparency, and accessibility of employee performance assessment data so that the evaluation process can be faster, more accurate, and provide more valuable information for decision-making at various managerial levels.

In the proposed system, there is a mark (*) on several activities carried out by system users. Users can carry out new or additional activities marked with a (*) on the system, which were not included in the previously running system activities. In the proposed system, there are a number of changes proposed to increase efficiency and

openness in employee performance appraisal management. Marketing employees can now directly input daily reports into the system, allowing access to this information by marketing employees themselves, administrators, and marketing managers. This brings ease of access and transparency to daily reporting. The admin section is responsible for inputting employee assessment reports regularly every month, and the marketing manager plays a role in verifying the results of employee performance assessments carried out by the admin section. Furthermore, all related parties, including marketing employees, administrators, marketing managers, and directors, have access to view employee assessment reports, both monthly and annual, increasing transparency and openness of information. Marketing employees also have the benefit of viewing their own performance appraisal reports according to employee ID, providing an opportunity for personal evaluation. Employee track records can also be accessed by marketing employees, marketing managers, and directors, allowing them to see the overall development of employee performance. Another added feature involves the ability to change profiles as needed, such as passwords, by marketing employees, administrators, marketing managers, and directors. Marketing managers and directors can also print assessment reports both monthly and annually, providing flexibility in the use of this information. Overall, this proposed system is expected to bring positive changes to employee performance appraisal management, creating a more efficient and open environment in the company.

The first sequence diagram depicts the login process, which involves two objects, namely the user and the login. In this diagram, the user object sends a message to the login object in the form of an email and password. Next, the login object checks the email message and password received. If the email and password are invalid, the login object sends a message to the user in the form of a failed login notification. However, if the email and password are valid, the login object sends a successful login message to the user, granting access to the system. The second sequence diagram shows the interaction between daily report objects and employees. The daily report object sends a message to the employee object containing daily report data information. Next, the employee object responds by sending a message back in the form of information containing the employee ID. This process reflects the flow of communication that occurs between daily reports and employees in the context of daily information delivery. The third sequence diagram describes the assessment report process involving four objects, namely variables, indicators, daily reports, and assessment reports. The variable object sends a message in the form of variable ID information to the indicator object. Next, the indicator object sends a message in the form of indicator ID information to the daily report object. Finally, the daily report object sends a message in the form of daily report ID information to the assessment report object. This process creates a series of interactions that compile the assessment report by linking information from variables, indicators, daily reports, and finally to the assessment report as the final result of the evaluation process.

In the database design process for the employee performance assessment information system using the rating scale method, the author has carried out database mapping and table design as the main basis. The aim of database mapping is to facilitate authors in designing the required database structure for the employee performance assessment system. This stage provides clear direction for creating tables and relationships between entities. Next, the interface design stage focuses on creating a system appearance that ensures an optimal user experience. The display design includes several things, including a login page that provides information about how users enter the system by entering their email and password. Apart from that, there is a special page design for marketing employees, which includes menus such as dashboards, daily report processing, and assessment report processing. The design of special pages for managing daily reports reflects the importance of a structured and intuitive display. It includes an add daily report page, where marketing employees can add daily reports and save them to the database. Furthermore, there is a daily report view page design, which provides information for marketing employees to view their daily report data every day through the system. Through this approach, database and interface design provide a solid foundation for an employee performance assessment information system using the rating scale method. This process integrates technical aspects and user experience, so it is hoped that the resulting system can function efficiently and provide added value in evaluating employee performance.

In developing an employee performance assessment information system, choosing the PHP programming language and MySQL database is a strategic step to ensure ease of development and connectivity between the system and the database. We use PHP to design web application logic, and MySQL as a database management system to store and manage information related to employee performance appraisals. During the system testing stage, we utilize black box testing as the method. This method focuses on system functions without paying attention to the details of its internal implementation. This testing aims to observe the system's response to the input provided and ensure that the resulting output meets user expectations. Testing begins by providing various inputs to the system, such as the login page, daily report processing, and performance assessment. Testing will include scenarios that reflect real-life use situations, such as filling out daily report forms, verifying correct and incorrect logins, and conducting verifiable performance assessments. During testing, testers observe how the system responds to the provided input. If the system operates as expected, the test is considered successful. On the other hand, if there is a mismatch between output and expectations, it is necessary to identify the cause and correct it. The black box testing method aims to ensure that the employee performance assessment information system functions optimally, providing

accurate responses to every input and delivering a good user experience. Ensuring the quality and reliability of the system before rolling it out into the production environment, this process plays a crucial role.

4. Conclusion

This research succeeded in designing and implementing an employee performance assessment information system using the rating scale method. The existence of this system has a positive impact by providing a solution to the challenge of performance assessment that is less than objective. With this platform, companies now have tools that can help reduce non-objectivity in employee performance assessments. This system is not only a technological innovation but also plays a role in changing the performance assessment paradigm in companies. The use of the rating scale method provides consistent evaluation standards, minimizes subjective assessments, and can increase accuracy and fairness in the assessment process. The successful implementation of this system also creates a more transparent and accountable environment where information related to performance assessment can be easily accessed by interested parties. This system not only facilitates the performance appraisal process but also has the potential to increase employee productivity and motivation. By providing easier access to assessment results, employees can better understand and respond to their performance appraisals. This has a positive impact on career development, performance management, and overall employee empowerment. As a holistic solution, this system provides a solid foundation for companies to continue to adapt and develop employee performance management. By continuing to explore potential and provide continuous improvements, this system has the potential to become a strategic asset in achieving the company's long-term goals and vision.

Based on the presented conclusions and analysis, we can put forward several suggestions for further research. First, it is necessary to consider developing performance assessments not only in the marketing department but involving all departments. This will provide a comprehensive overview of the company's performance and can increase the effectiveness of human resource management in various departments. The second suggestion is to develop the next system using the latest system development methods. By updating development methods, research can accommodate technological developments and best practices in information systems development. Using the latest methods can also increase system speed, reliability, and scalability. The third suggestion is to develop a system that can be accessed via mobile devices. By implementing a mobile-based platform, company employees can access the performance appraisal system more easily via their smartphones. This will provide flexibility and ease of access, which can increase employee participation and performance management efficiency. By combining these suggestions, future research can bring greater and deeper innovation to the development of employee performance assessment information systems. The implementation of comprehensive performance assessments, the latest development methods, and accessibility via mobile devices can increase the system's positive impact on performance management.

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