

## Designin Information System in Human Resource Recruitment using Simple Additive Weighthing Method

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**Abstract**— Unemployment is one of the biggest problems experienced in various countries. The absence of opportunities and information about work makes it difficult for human resources to find work as well as the difficulty for companies to find employees in accordance with what is expected by the company. Making less than the maximum production results produced by the company. for that in the organization a system to help companies find competent human resources. and help facilitate HR in applying for jobs by entering personal data into a system to be subsequently selected by the company to recruit as employees. The simple additive weighting method is one method that can be used in selecting human resources to become employees.

**Keywords**— *Simple additive weighting, SAW, employee recruitment, decision support system.*

### INTRODUCTION

It is undeniable that unemployment in various countries continues to increase every year. This can be seen from the data reported by kompas.id showing, the number of unemployed in December 2020 in Malaysia was 772,900 people, an increase of about 1.6 percent over the same period from the previous year. The Philippine Statistical Authority (PSA) on Monday (8/3/2021) said about 4.5 million or 10.3 percent of Filipinos were unemployed last year, bringing the country's unemployment rate to the highest level in 15 years. Research firm Roy Morgan expects the unemployment rate in Australia to jump to 13.2 per cent in February 2021 compared to 6.4 per cent in January 2021.[1] Improper placement of human resources can have an impact on sub-optimal productivity results due to lack of work and lack of skills possessed by human resources. difficulty finding work and lack of information in finding job vacancies. Leaving some human resources who are competent in their fields are not channeled. It is very, very if there are human resources who have good soft skills and hard skills are not spread in a company. Therefore, a system is needed to help recommend human resources to companies to select prospective workers according to the criteria required by the company. [2] The simple additive weighting (saw) method is one method that can be used to solve problems in decision making by finding the performance weight value of each alternative on the attribute and normalizing the decision matrix (x) on a scale that can seed all alternative ratings. which exists. [3]

### LITERATURE REVIEW

Application of a Decision Support System for New Employee Recruitment Using the Simple Additive Weighting (SAW) Method (Case Study: PT. "X") [7] in this study resulted in a decision support system that provides solutions to human resources development (HRD) to determine candidates. new employees and can provide appropriate recommendations to improve the quality of decisions. In this research, there is a research equation that lies in the method, namely using the simple additive weighting method.

Decision Support System for Election of New Migrant Workers Using the SAW Method at PT. Amarta Mustikateknik. [9] In this study, it is said that the existence of a decision support information system in recruiting human resources can help reduce HRD tasks in recruiting prospective employees to be faster and more conducive. There is a research equation, namely in the method using the simple additive weighting method (saw) and in the selection of new recruits.

### RESEARCH METHODS

Decision support system (DSS) is a system that can solve problems in structured and unstructured conditions. And no one knows correctly how decisions should be made. [10] In this study, researchers used the simple additive weighting method as a tool in making decisions. The following are the steps for calculating the Simple Additive Weighting (SAW) method.

1. First step first determine Alternative (A<sub>i</sub>)
2. Step Two determine the criteria to be a reference inmaking decisions (C<sub>j</sub>)
3. The third step determines the weight of preference or level of importance (W) for each criterion  $w = (w1..wj)$
4. Step Four determines the match value of each Criterion
5. Step Fifth To make a decision matrix (X) which isobtained from the suitability rating of each alternative (A<sub>i</sub>) with each criterion (C<sub>j</sub>).
6. Step Six, normalize the decision matrix (x) by calculating the normalized performance rating (rij) from Alternative (ai) to criterion (cj) using the following formula
7. Step seven. the result of normalization (rij) produces normalized matrix (r)
8. The eighth step, the final result of the preference value

(vi) is obtained from the sum of the normalized matrix row elements (r) with the preference weight (W) associated with the matrix column element (W)

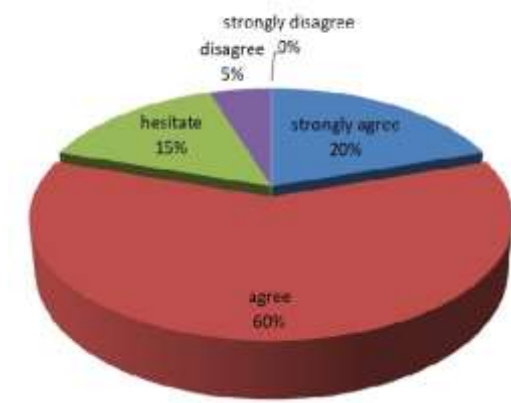
$$V_i = \sum_{j=1}^n W_j r_{ij}$$

Vi = rating for each alternative  
Wj = weight value of each Criteria  
Rij = normalized performance rating value. [8]

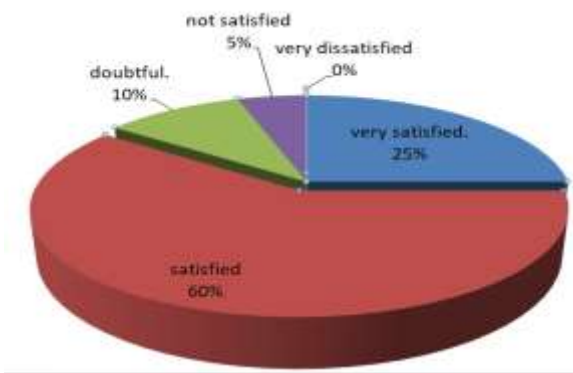
Based on the results of research on the design of a decision support system in human resource recruitment using the simple additive weighting (saw) method, it can be concluded that : (1) The simple additive weighting method (saw) can make it easier for companies to select prospective employees according to the criteria that have been determined by the company to be recruited as employees, (2) With this system, it can help make it easier for applicants to find work by entering their personal data into a system and then the selection process is carried out and selected by the company according to the criteria set by the company.

### RESULTS AND DISCUSSION

From the results of the implementation of the human resource system, system users consist of company users and human resource users. At this stage, testing was carried out on 15 respondents taken from various regions from Indonesia to test the system using a questionnaire and provide a weighting assessment using a rating scale as a value for each questionnaire question. The results of the analysis of the questionnaire testing of the human resource system that have been filled in by the respondents from the test results get the results in Figure 1 and Figure 2 below



The results of the questionnaire that have been filled in by the respondent then get the results in graphic form. strongly agree 20%, agree 60%, hesitate 15%, disagree 5%, strongly disagree 0% From the results of the value strongly agree and agree if the total is 80% it shows that the HR system uses the SAW method for this employee in very good company



From the results of the questionnaires that have been filled in by the respondents, get the results of respondents' satisfaction in the form of graphs. There is a value of respondents who are very satisfied 25%, satisfied 60%. From the total value of very satisfied and satisfied given by respondents worthy of 85% indicates that the human resource choice support system is applied in the company so that it can help the company's effectiveness in selecting candidates to be recruited into employee.



And then there are the results of respondents who show the results of the value of doubt 10%, not satisfied 5%, very satisfied 0%. Which means that not a few human resources owned still have shortcomings that must be corrected and developed so that the system gets maximum results. below is the application page view Main menu display

### CONCLUSION