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Optimizing Employee Admission Selection Using G2M Weighting and MOORA Method

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ABSTRACT

An objective and effective employee admission selection process is a crucial step for the organization's success in achieving its goals. Problems in employee recruitment selection that occur in the company arise due to a lack of planning and implementation of a good system, namely decisions are often influenced by personal preferences, stereotypes, or irrelevant factors, thereby reducing objectivity in choosing the best candidates. Objective selection ensures that candidate assessments are conducted based on measurable, relevant, and bias-free criteria, so that only individuals who truly meet the company's needs and standards are accepted. The purpose of developing an optimal approach in employee admission selection using G2M weighting and MOORA is to create a more objective, efficient, and accurate selection process. This approach aims to integrate the calculation of criterion weights mathematically, such as those offered by G2M, in order to eliminate subjective bias in determining criterion prioritization. The MOORA method of evaluating alternative candidates is carried out through ratio analysis that takes into account various criteria simultaneously, resulting in a transparent and data-driven ranking. The results of the employee admission selection ranking based on the criteria that have been evaluated, Candidate 3 obtained the highest score of 0.4177, indicating that this candidate best meets the expected criteria. The second position was occupied by Candidate 6 with a score of 0.3886, followed by Candidate 9 with a score of 0.3528. This research contributes to the recruitment process, by providing a more reliable, transparent, and less subjective way of selecting the right candidates for the positions that companies need.

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INTRODUCTION

Employee recruitment selection is a systematic process carried out by organizations to assess, evaluate, and select candidates who best meet the qualifications and needs of a particular position(Setiawansyah, 2024). This process aims to ensure that the recruited employees have the appropriate skills, experience, and characteristics to support the organization's goals. Selection usually involves various stages, such as document checks, ability tests, interviews, and psychological assessments, in order to get a comprehensive picture of the candidate's potential(Gaddi et al., 2024). With good selection, organizations can reduce the risk of recruitment errors, increase productivity, and create a more effective and harmonious work environment(Siddik et al., 2024). Problems in employee recruitment selection often arise due to the ineffectiveness of the process that affects decision-making. Some common issues include the use of less

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relevant selection methods, unclear assessment criteria, and a lack of objectivity in evaluating candidates. In addition, personal preferences or stereotypes can hinder fair and accurate judgment. Another challenge is the gap between organizational needs and candidate abilities that are not well identified, often caused by less than optimal job analysis. This problem not only has an impact on the low quality of recruitment, but can also lead to high turnover rates, reduced productivity, and decreased job satisfaction in the organizational environment.

An objective and effective employee recruitment selection process is essential to ensure that organizations can recruit individuals who best suit the company's needs and goals. Objective selection refers to an assessment based on measurable data and criteria, thereby reducing the potential for subjective bias that can be detrimental to the decision-making process(Zhang et al., 2023). On the other hand, effective selection involves using the right methods to thoroughly assess a candidate's competencies, skills, and potential. This process not only helps to improve productivity and quality of work, but also promotes the creation of a fair and professional work environment, which ultimately contributes to the long-term success of the organization. In addition, objective and effective selection helps organizations identify candidates who have values, work culture, and vision that align with the company. This is important for creating a harmonious and collaborative work environment, which ultimately improves the overall performance of the team. A good process is also able to minimize recruitment errors that can impact additional costs, such as retraining or employee turnover. By using modern tools, such as data-driven decision support systems, structured interviews, and psychological assessments, organizations can improve accuracy in selecting the best candidates(Tupayachi et al., 2024). The implementation of fair and professional selection also strengthens the company's reputation as a superior workplace, attracting more potential talents in the future.

Employee recruitment selection using the multi-objective optimization on the basis of ratio analysis (MOORA) method is a multi-criteria decision-making-based approach that assists organizations in evaluating and selecting the best candidates objectively(Rani et al., 2023; Sevim & Aldogan, 2024; Yagmahan & Yılmaz, 2023). This method works by identifying relevant selection criteria, such as technical competence, experience, interpersonal skills, and potential contribution to the company. Each candidate is assessed based on these criteria, then a normalization process is carried out to compare the relative scores between candidates. MOORA enables structured and transparent decision-making(Barik et al., 2023; Setiawansyah et al., 2024). By using this method, companies can reduce subjectivity in assessment and ensure that shortlisted candidates have the best fit for available positions, thus supporting recruitment efficiency and quality. MOORA is also flexible to be applied in various sectors and organizational scales, due to its simple yet systematic process(R. & Vimalkumar, 2022; Sevim & Aldogan, 2024). With data-driven analysis, this method provides accountable results, increasing stakeholder confidence in the fairness and effectiveness of the selection process. One of the weaknesses of the MOORA method in the aspect of weighting criteria is its dependence on the weighting given subjectively by decision-makers. The weighting of the criteria is usually determined based on individual preferences or perceptions, which can give rise to bias or inconsistencies, especially if it is not supported by objective methods of determining weights. When weights are not determined correctly, the results of MOORA calculations may become less reflective of actual needs or priorities, affecting the validity and accuracy of decisions. In addition, MOORA does not directly provide a mechanism to evaluate the sensitivity of the results to changes in weights, which can be a drawback if the weights of the criteria are modified during the selection process. This limitation can be overcome by combining MOORA with a more objective weighting method to improve the reliability of results. To overcome the limitations of MOORA in the weight of the criteria, an objective weighting method is used, namely gray geometric mean (G2M) weighting.

G2M weighting is a criterion weighting method developed with a geometric approach based on the gray system theory to capture uncertainty and complexity in multi-criteria decision-making (Hendrastuty et al., 2025). This method combines the concept of geometric mean with gray relationship analysis to objectively determine the weight of the criteria based on the available data. G2M weighting calculates weights by considering the relationships and interactions between criteria, resulting in a more balanced weight distribution and reflecting the importance of each criterion more realistically. This approach is particularly effective in situations where data is incomplete, ambiguous, or influenced by various external factors. With the ability to process uncertain information, G2M weighting helps to improve the accuracy and reliability of decision-making processes, making it a relevant choice in the context of performance evaluation, selection, and prioritization. With a more adaptive and data-driven approach, G2M weighting is a significant innovation in the development of decision support systems, especially in the face of the challenges of uncertainty and complexity of criteria.

The combination of G2M weighting and the MOORA method in decision support systems (DSS) is an effective approach to dealing with multi-criteria decision-making problems in conditions of uncertainty and complexity. G2M weighting is used to calculate the weight of criteria objectively, by utilizing a geometric approach based on gray theory to overcome incomplete or ambiguous data. Once the criteria weights are determined, the MOORA method is applied to evaluate alternatives based on those weights. MOORA, which optimizes the ratio between alternative performance and criterion value, allows for fairer comparisons between alternatives. The combination of these two methods strengthens the decision-making process by resulting in more accurate weights and more objective alternative rankings, providing better solutions. This approach also increases the transparency and reliability of results, as well as minimizes the potential for bias in final decisions. In addition, the combination of G2M Weighting and MOORA allows for more dynamic and adaptive decision-making to changes in conditions or available information. With G2M Weighting, the system can handle the uncertainties inherent in the input data, such as variations in information quality or lack of perfect data, without sacrificing evaluation accuracy. After the weights obtained are more representative through G2M, the MOORA method then optimizes alternative rankings by considering their relative performance based on the predetermined weights. As a result, the selection or evaluation process becomes more systematic and able to cover the complexity of various criteria that may interact with each other. The merger of these two methods also provides advantages in terms of efficiency, as the weighting and ranking process can be carried out in a structured and more objective data-driven manner(Işık et al., 2024). Therefore, this approach is very useful in decision-making that involves many criteria with a high degree of uncertainty, such as in supplier selection, employee performance evaluation, or long-term strategic planning(Sevim & Aldogan, 2024; Xu, 2024).

This research aims to optimize the employee admission selection process by developing and implementing a combination of G2M weighting and the MOORA method. The main goal is to create a selection system that is objective, efficient, and can handle uncertainty in data, thus allowing companies to select candidates who best match the specified criteria. This research also aims to improve accuracy and transparency in the decision-making process, as well as to reduce the bias that often arises in conventional selection methods. The contribution of this research is the development of a more sophisticated and adaptive approach in employee admission selection by combining G2M weighting and MOORA methods. G2M weighting provides a more objective and adaptive way of determining criteria weighting, overcoming data uncertainty that often arises in the selection process. Meanwhile, the MOORA method allows for the systematic evaluation and comparison of alternative candidates based on predetermined weights, improving the efficiency and effectiveness of the ranking. This research makes an important contribution to the development of a decision support system in the context of recruitment, by providing a more reliable, transparent, and reduced subjectivity in selecting the right candidate for the position that the company needs.

RESEARCH METHOD

Research methods refer to a systematic approach used to collect, analyze, and interpret data to answer research questions or test hypotheses(Irawan et al., 2023; William et al., 2024). The research stage is important to ensure that the research results are reliable, contribute to existing knowledge, and offer applicable solutions or recommendations to the problem being studied(Liu et al., 2023; Mishra et al., 2024). The research method used in this study combines G2M weighting and the MOORA method to optimize the employee admission selection process. This approach is expected to increase accuracy and objectivity in employee selection decision-making. With this approach, it is hoped that the company can produce more valid and accountable selection decisions, as well as reduce the potential for bias that can affect the final result. The method used can also be adjusted to the needs of the company, given its flexibility in handling various types of data and selection criteria. The research method carried out is shown in Figure 1.

Figure 1. Research Stages

The stages in figure 1 start from the collection of assessment data, starting with collecting information from various sources related to the criteria that have been determined to assess prospective employees. This data can be obtained through interviews, surveys, or observations, involving assessors who have an understanding of the relevant criteria. Once the data is collected, the next stage is the determination of weights using the G2M weighting method, which aims to establish the relative priority of each criterion based on its objectivity and importance in the selection process. This weight is calculated by taking into account the contribution of each criterion to the final decision. Furthermore, the Employee Admission Selection assessment is carried out using the MOORA method, where each alternative (prospective employee) is evaluated based on criteria that have been weighted. MOORA makes it possible to identify the optimal solution by systematically comparing each alternative. Finally, the ranking stage is carried out to determine the ranking of prospective employees based on the scores generated from the MOORA analysis. The prospective employee with the highest score will be selected as the best, making it easier for decision-makers to choose the candidate who best meets the company's needs and standards. An explanation of each stage is shown as follows.

1. Assessment Data Collection
   The collection of assessment data in the selection of employee admissions is an important process that aims to collect objective and relevant information regarding the qualifications and competencies of prospective employees. Data is obtained through various methods, such as interviews, ability tests, psychological assessments, surveys, or performance evaluations from previous jobs. The information collected will cover various aspects, such as technical skills, communication skills, work experience, as well as personal characteristics that are in accordance with the company's culture and values. This process ensures that the data collected is accurate and representative, so it can be a solid basis for decision-making in determining the best potential employees for the available positions out of 10 potential employees. The collected criteria data are shown in table 1 is the result of data collection conducted in this study.

Table 1. Assessment Criteria Data

Code	Name	Description	Value
K1	Education	Education level that suits the job requirements	1-5
K2	Work Experience	Duration and relevance of previous work experience	In Years
K3	Creativeness	Ability to generate new and innovative ideas (suitable for creative positions)	0-100
K4	English Language Proficiency	Skills in speaking or writing in a specific foreign language.	0-100
K5	Technical Skills	Specific skills required for the job, such as the use of specific software.	1-10
K6	Leadership	Team leadership and conflict management skills (suitable for managerial positions).	1-5

From the data of the assessment criteria in table 1, candidates will be assessed based on each of the criteria shown in table 2 is the result of data collection conducted in this study.

Table 2. Candidate Assessment Data

Name	K1	K2	K3	K4	K5	K6
Candidate 1	4	5	85	90	8	4
Candidate 2	3	3	75	80	7	3
Candidate 3	5	7	90	95	9	5
Candidate 4	4	4	70	85	6	3
Candidate 5	3	2	60	70	5	2
Candidate 6	5	6	80	92	9	4
Candidate 7	4	4	78	88	8	4
Candidate 8	2	1	50	65	4	2
Candidate 9	4	5	80	89	7	5
Candidate 10	3	3	65	75	6	3

The assessment data in table 2 from the assessment of the 10 candidates above provides an overview of the various aspects assessed in the employee admission selection process. This data will be thoroughly evaluated regarding the qualifications and competencies of each candidate, providing a solid basis for decisions in selecting the best prospective employees according to the company's needs.

2. G2M Weighting
   G2M weighting is a method used to determine the weighting of criteria in a multi-criteria analysis with the aim of ensuring objective and accurate weighting. In G2M, each criterion is assessed based on the relationship between the existing data, where the weights obtained reflect the relative importance of each criterion to the final decision. The advantage of this method is its ability to handle uncertain or subjective data by reducing any bias that may arise in weighting. This G2M method is particularly useful in decision support system applications, where the selection of the right weights can significantly affect the results of the analysis, ensuring that the priority assigned to each criterion is in accordance with its contribution to the objectives of the decision to be achieved.
   A decision matrix is a representation of data used in decision-making that contains basic information that will be further analyzed to determine the best alternative, a decision matrix is created using the following equation.

$$X = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix} \quad (1)$$

The geometric mean value is a calculation step used to obtain the relative contribution of each criterion to the final decision, by reducing the influence of extreme values that can distort the results of the analysis, the geometric mean value is calculated using the following equation.

$$GM_i = \left(\prod_{i=1}^{j} x_i\right)^{1/n} \quad (2)$$

Matrix normalization is the process of transforming the values in the decision matrix so that they are on a consistent scale, the matrix normalization value is calculated using the following equation.

$$R_{ij} = \frac{x_{ij}}{GM_i} \quad (3)$$

Calculating the gray value provides information about how well the criterion value of the overall data is available, the gray value is calculated using the following equation.

$$GRG_i = \frac{1}{n}\sum_{j=1}^{n} R_{ij} \quad (4)$$

Calculating the final weight of the criterion provides a numerical representation of the relative priority of the criterion, which is then used to calculate the final value for each alternative and determine the most optimal alternative based on the predetermined weight, the value of the criterion weight is calculated using the following equation.

$$w_j = \frac{GRG_i}{\sum_{i=1}^{j} GRG_i} \quad (5)$$

The G2M weighting method is particularly useful in decision support system applications, where the selection of the right weights can significantly affect the results of the analysis, ensuring that the priority assigned to each criterion corresponds to its contribution to the desired decision objectives.

3. MOORA Method

   The MOORA method is one of the methods in multi-criteria decision-making analysis used to evaluate and select the best alternative based on several conflicting criteria(Barman et al., 2024; Sevim & Aldogan, 2024). MOORA is an optimization method designed to identify the optimal solution by using the ratio of analysis to each alternative, making it easier to compare between alternatives based on predetermined criteria(Chakraborty et al., 2023). The stages in the MOORA method are as follows.

   Constructing a decision matrix that includes alternatives in rows and criteria in columns, with values reflecting the extent to which each alternative meets the criteria set is created using equation (1).

   The normalization process is carried out to change the values in the decision matrix so that they are on a uniform scale. The normalization technique used can be in the form of dividing each element with the maximum value in its column, so as to facilitate comparison between alternatives, calculated using the following equation.

$$x_{ij}^{*} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{j} x_{ij}^{2}}} \quad (6)$$

   The alternative with the highest ratio value is considered the most optimal alternative, that is, the alternative that provides the best results based on the selected criteria. It is an alternative that fulfills the decision-making objectives in the most efficient way, calculated using the following equation.

$$Y_j^{*} = \sum_{j=1}^{g} x_{ij}^{*} * w_j - \sum_{j=g+1}^{n} x_{ij}^{*} * w_j \quad (7)$$

   The advantage of the MOORA method is its ability to handle multi-criteria problems by providing structured and clear solutions. This method is often used in various fields, such as supplier selection, product selection, performance evaluation, and selection of the best candidates in recruitment or selection.

4. Employee Admission Selection Ranking

   Employee admission selection ranking is an evaluation process carried out to arrange the ranking order of prospective employees based on predetermined criteria. In this process, each candidate is assessed using a number of factors, such as education level, work experience, creativity, foreign language proficiency, technical skills, and leadership abilities. After an assessment of each criterion, a ranking is compiled with the aim of identifying the most qualified candidates for the available positions. These rankings make it easier for decision-makers to see direct comparisons between candidates, allowing for more objective and data-driven elections. Thus, this ranking ensures that selection decisions are based on comprehensive and structured considerations.

RESULTS AND DISCUSSION

Optimizing employee admission selection using G2M weighting and MOORA method is a comprehensive approach that combines two powerful techniques to enhance the selection process of candidates for a job position. The G2M weighting method is first used to objectively determine the importance or weight of each selection criterion, ensuring that the evaluation process reflects the relative significance of factors such as education, work experience, technical skills, and leadership abilities. Once the weights are assigned, the MOORA method is applied to assess and rank the candidates based on these weighted criteria. MOORA allows for a systematic comparison of the candidates by normalizing their performance across various criteria and computing an optimal ratio, ultimately identifying the best candidate for the position. This combined methodology ensures a balanced, transparent, and data-driven selection process, which minimizes bias and maximizes the likelihood of selecting the most qualified candidate.

1. Determining Weighting Using G2M Weighting
   Determining weighting using the G2M weighting method is an important step in a multi-criteria analysis that aims to give an objective weight to each criterion used in the evaluation process. Using this approach, each criterion is given a weight that reflects the extent to which it affects the final decision, taking into account the variability and uncertainty of the data. This process helps to reduce the bias that can arise from subjective weight determination, resulting in more accurate and representative weights. The G2M method ensures that each criterion is given a fair assessment in accordance with its contribution to the evaluation objectives, providing a stronger basis for optimal decision-making.
   A decision matrix is a representation of data used in decision-making that contains basic information that will be further analyzed to determine the best alternative, the decision matrix is created using equation (1) from the assessment data in table 2.

$$X = \begin{bmatrix} 4 & 5 & 85 & 90 & 8 & 4 \\ 3 & 3 & 75 & 80 & 6 & 3 \\ 5 & 7 & 90 & 95 & 9 & 5 \\ 4 & 4 & 70 & 85 & 6 & 3 \\ 3 & 2 & 60 & 70 & 5 & 2 \\ 5 & 6 & 80 & 92 & 9 & 4 \\ 4 & 4 & 78 & 88 & 8 & 4 \\ 2 & 1 & 50 & 65 & 4 & 2 \\ 4 & 5 & 80 & 89 & 7 & 5 \\ 3 & 3 & 65 & 75 & 6 & 3 \end{bmatrix}$$

The geometric mean value is a calculation step used to obtain the relative contribution of each criterion to the final decision, by reducing the influence of extreme values that can distort the results of the analysis, the geometric mean value is calculated using the equation (2).

$$GM_1 = \left(\prod_{i=1}^{j} x_{11,110}\right)^{1/10} = 3.5798$$
$$GM_2 = \left(\prod_{i=1}^{j} x_{21,210}\right)^{1/10} = 3.5323$$
$$GM_3 = \left(\prod_{i=1}^{j} x_{31,310}\right)^{1/10} = 72.3124$$
$$GM_4 = \left(\prod_{i=1}^{j} x_{41,410}\right)^{1/10} = 82.3229$$
$$GM_5 = \left(\prod_{i=1}^{j} x_{51,510}\right)^{1/10} = 6.7022$$
$$GM_6 = \left(\prod_{i=1}^{j} x_{61,610}\right)^{1/10} = 3.3401$$

Matrix normalization is the process of transforming the values in the decision matrix so that they are on a consistent scale, the matrix normalization value is calculated using the equation (3).

$$R_{11} = \frac{x_{11}}{GM_1} = \frac{4}{3.5798} = 1.1174$$

The overall results of the normalization value calculation are shown in table 3 are the results of data processing carried out in this study.

Calculating the gray value provides information about how well the criterion value of the overall data is available, the gray value is calculated using the equation (4).

$$GRG_1 = \frac{1}{10}\sum_{j=1}^{n} R_{11,110} = 1.0336$$

Table 3. Results of Normalization Value Calculation

Name	K1	K2	K3	K4	K5	K6
Candidate 1	1.1174	1.4155	1.1755	1.0933	1.1936	1.1976
Candidate 2	0.8380	0.8493	1.0372	0.9718	1.0444	0.8982
Candidate 3	1.3967	1.9817	1.2446	1.1540	1.3428	1.4970
Candidate 4	1.1174	1.1324	0.9680	1.0325	0.8952	0.8982
Candidate 5	0.8380	0.5662	0.8297	0.8503	0.7460	0.5988
Candidate 6	1.3967	1.6986	1.1063	1.1176	1.3428	1.1976
Candidate 7	1.1174	1.1324	1.0787	1.0690	1.1936	1.1976
Candidate 8	0.5587	0.2831	0.6914	0.7896	0.5968	0.5988
Candidate 9	1.1174	1.4155	1.1063	1.0811	1.0444	1.4970
Candidate 10	0.8380	0.8493	0.8989	0.9110	0.8952	0.8982

$$GRG_2 = \frac{1}{10}\sum_{j=1}^{n} R_{21,210} = 1.1324$$
$$GRG_3 = \frac{1}{10}\sum_{j=1}^{n} R_{31,310} = 1.0137$$
$$GRG_4 = \frac{1}{10}\sum_{j=1}^{n} R_{41,410} = 1.0070$$
$$GRG_5 = \frac{1}{10}\sum_{j=1}^{n} R_{51,510} = 1.0295$$
$$GRG_6 = \frac{1}{10}\sum_{j=1}^{n} R_{61,610} = 1.0479$$

Calculating the final weight of the criterion provides a numerical representation of the relative priority of the criterion, which is then used to calculate the final value for each alternative and determine the most optimal alternative based on the predetermined weight, the value of the criterion weight is calculated using the equation (5).

$$w_1 = \frac{GRG_1}{\sum_{i=1}^{j} GRG_{1,6}} = \frac{1.0336}{6.2640} = 0.1650$$

$$w_2 = \frac{GRG_2}{\sum_{i=1}^{j} GRG_{1,6}} = \frac{1.1324}{6.2640} = 0.1808$$
$$w_3 = \frac{GRG_3}{\sum_{i=1}^{j} GRG_{1,6}} = \frac{1.0137}{6.2640} = 0.1618$$
$$w_4 = \frac{GRG_4}{\sum_{i=1}^{j} GRG_{1,6}} = \frac{1.0070}{6.2640} = 0.1608$$
$$w_5 = \frac{GRG_5}{\sum_{i=1}^{j} GRG_{1,6}} = \frac{1.0295}{6.2640} = 0.1644$$
$$w_6 = \frac{GRG_6}{\sum_{i=1}^{j} GRG_{1,6}} = \frac{1.0479}{6.2640} = 0.1673$$

The results of the criteria weights are shown in figure 2 are the results of data processing carried out in this study.

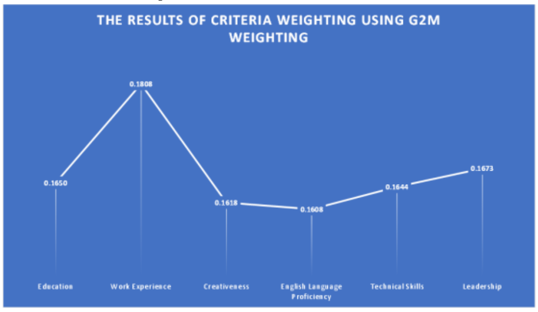

Figure 2. Graph of the Result of the Criterion weight Value

Figure 2 shows a graph of the results of weighting criteria using the G2M Weighting method. There are six criteria that are evaluated, namely education, work experience, creativeness, English language proficiency, technical skills, and leadership. The weighting results show that the Work Experience criterion has the highest weight of 0.1808, indicating the importance of work experience in the selection process. Furthermore, leadership is in second place with a weight of 0.1673, followed by education with a weight of 0.1650 and technical skills with a weight of 0.1644. The creativeness criterion gets a weight of 0.1618, slightly higher than the English language proficiency which has a weight of 0.1608, making it the criterion with the lowest weight. These results reflect that work experience and leadership are the most crucial aspects, while English language proficiency has a lower priority level than other criteria in this context.

2. Employee Admission Selection Assessment Using the MOORA Method

Employee admission selection assessment using the MOORA Method is a systematic approach used to evaluate and compare candidates based on various predetermined criteria. This method begins by compiling a decision matrix that contains the performance values of each candidate against each relevant criterion, namely education, work experience, technical skills, and leadership ability. This approach helps to ensure that selection is conducted objectively and data-driven, minimizes bias in decision-making, and ensures the selection of candidates who best meet the needs of the organization.

A decision matrix is a representation of data used in decision-making that contains basic information that will be further analyzed to determine the best alternative, the decision matrix is created using equation (1) from the assessment data in table 2.

$$X = \begin{bmatrix} 4 & 5 & 85 & 90 & 8 & 4 \\ 3 & 3 & 75 & 80 & 6 & 3 \\ 5 & 7 & 90 & 95 & 9 & 5 \\ 4 & 4 & 70 & 85 & 6 & 3 \\ 3 & 2 & 60 & 70 & 5 & 2 \\ 5 & 6 & 80 & 92 & 9 & 4 \\ 4 & 4 & 78 & 88 & 8 & 4 \\ 2 & 1 & 50 & 65 & 4 & 2 \\ 4 & 5 & 80 & 89 & 7 & 5 \\ 3 & 3 & 65 & 75 & 6 & 3 \end{bmatrix}$$

The normalization process is carried out to change the values in the decision matrix so that they are on a uniform scale. The normalization technique used can be in the form of dividing each element with the maximum value in its column, so as to facilitate comparison between alternatives, calculated using the equation (6).

$$x_{11}^{*} = \frac{x_{11}}{\sqrt{\sum_{i=1}^{j} x_{11,110}^{2}}} = \frac{4}{12.0416} = 0.3322$$

The overall results of the normalization value calculation are shown in table 4 are the results of data processing carried out in this study.

Table 4. Results of Normalization Value Calculation

Name	K1	K2	K3	K4	K5	K6
Candidate 1	0.3322	0.3627	0.3622	0.3411	0.3508	0.3468
Candidate 2	0.2491	0.2176	0.3196	0.3032	0.3070	0.2601
Candidate 3	0.4152	0.5078	0.3836	0.3600	0.3947	0.4336
Candidate 4	0.3322	0.2902	0.2983	0.3221	0.2631	0.2601
Candidate 5	0.2491	0.1451	0.2557	0.2653	0.2193	0.1734
Candidate 6	0.4152	0.4353	0.3409	0.3487	0.4385	0.3468
Candidate 7	0.3322	0.2902	0.3324	0.3335	0.3508	0.3468
Candidate 8	0.1661	0.0725	0.2131	0.2463	0.1754	0.1734
Candidate 9	0.3322	0.3627	0.3409	0.3373	0.3070	0.4336
Candidate 10	0.2491	0.2176	0.2770	0.2842	0.2631	0.2601

The alternative with the highest ratio value is considered the most optimal alternative, that is, the alternative that provides the best results based on the selected criteria. It is an alternative that fulfills the decision-making objectives in the most efficient way, calculated using the equation (7).

$$Y_1^* = \sum_{j=1}^{g} x_{11,61}^* * w_{1,6} - \sum_{j=g+1}^{n} x_0^* * w_0$$

$$Y_1^* = 0.3496$$

The overall results of the final MOORA score are shown in table 5 are the results of data processing carried out in this study.

Table 5. Results of Final Score MOORA

Name	Final Score of MOORA
Candidate 1	0.3496
Candidate 2	0.2749
Candidate 3	0.4177
Candidate 4	0.2941
Candidate 5	0.2164
Candidate 6	0.3886
Candidate 7	0.3304
Candidate 8	0.1725
Candidate 9	0.3528
Candidate 10	0.2578

The final result of the calculation of the MOORA method is the ratio value used to determine the best alternative based on predetermined criteria. The alternative with the highest ratio value is considered the best alternative, as it indicates that the alternative has the most optimal performance in accommodating all the criteria that have been evaluated. As such, MOORA final results provide clear and structured guidance for decision-making, prioritizing alternatives that deliver the best results overall.

3. Employee Admission Selection Ranking
Employee is a ranking process that is carried out after evaluating the candidate's performance based on various criteria relevant to the selection of employee admissions. This process begins after the assessment is carried out using methods such as MOORA, which generates a ratio score for each candidate based on predetermined criteria, such as education, work experience, technical skills, and leadership. Based on the results of the ratio calculation, candidates are ranked according to their performance on each normalized criterion. The candidate with the highest ratio will be ranked at the top, signifying that they have the best qualifications overall. These rankings provide a clear and objective basis for decision-making in selecting the best candidates, reduce subjectivity, and ensure that selection is carried out in a transparent and data-driven manner. The results of these rankings can be used to determine who will be accepted or prioritized in the later stages of the recruitment process. The ranking results shown in figure 3 are the results of data processing carried out in this study.

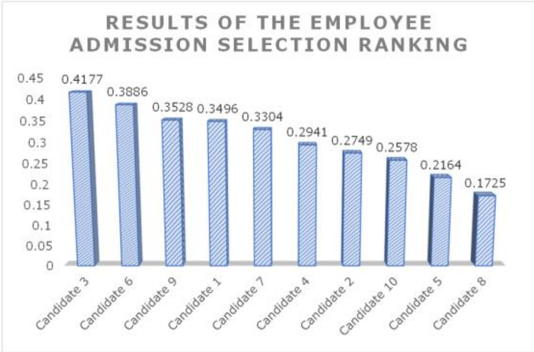

Figure 3. Graph of the Results of the Employee Admission Selection Ranking

The graph above displays the results of the employee admission selection ranking based on the criteria that have been evaluated. Candidate 3 obtained the highest score of 0.4177, indicating that this candidate best met the expected criteria. The second position was occupied by Candidate 6 with a score of 0.3886, followed by Candidate 9 with a score of 0.3528. Furthermore, Candidate 7 and Candidate 1 have scores of 0.3496 and 0.3304 respectively, placing them in fourth and fifth place. Candidate 4 obtained a score of 0.2941, slightly superior to Candidate 2 who had a score of 0.2749, and Candidate 10 with a score of 0.2578. The candidates with the lowest scores were Candidate 5 and Candidate 8, with scores of 0.2164 and 0.1725, respectively. These results show that Candidate 3 and Candidate 6 are the most potential candidates, while Candidate 5 and Candidate 8 need improvement to meet the selection criteria.

CONCLUSION

The use of the G2M Weighting and MOORA methods in optimizing employee admission selection shows that the combination of these two methods is very effective in increasing objectivity and accuracy in the selection process. The G2M Weighting method provides an objective way of determining the weight of each criterion, reducing the possibility of subjective bias in decision-making. Meanwhile, the application of the MOORA method allows for a fairer and more transparent comparison between candidates by taking into account their performance on various relevant criteria. By calculating the optimal ratio for each candidate, the selection process becomes more structured and data-driven, resulting in the selection of the best candidates who meet the predetermined criteria. The merger of these two methods provides a more efficient and reliable solution in employee selection, ensuring that the decisions taken can improve the quality of human resources received by the company. The results of the employee admission selection ranking based on the criteria that have been evaluated, Candidate 3 obtained the highest score of 0.4177, indicating that this candidate best meets the expected criteria. The second position was occupied by

Candidate 6 with a score of 0.3886, followed by Candidate 9 with a score of 0.3528. This research makes an important contribution to the development of decision support systems in the context of recruitment, by providing a more reliable, transparent, and less subjective way of selecting the right candidates for the position that the company needs.

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