

Employee Recruitment System Implementation Strategy Using The Analytical Hierarchy Process (AHP) Method (Case Study at Bank Mandiri Taspen Bandung Branch)

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This study aims to design a strategy for an employee recruitment system using the Analytical Hierarchy Process (AHP) method at Bank Mandiri Taspen. The main problems in the recruitment process are high subjectivity and the absence of a structured decision support system. This study uses a qualitative descriptive approach combined with the quantitative AHP method. Data were obtained through interviews with three internal informants, then analyzed to develop a decision hierarchy structure that includes five criteria: Academic Qualifications, Academic Potential Test, Personality, Technical Competence, and Cultural Fit. Calculations were performed manually using Excel and automatically using the Expert Choice application. The results show that the Academic Qualification Criteria obtained the highest priority score of 0.4927, and Candidate 1 obtained the highest priority score of 0.6174, thus being declared the best candidate. AHP has been proven to increase the objectivity and efficiency of the selection process. Obstacles in implementing this method are the team's limited understanding of AHP and supporting applications. However, informants expressed readiness to try this method if it proves effective. In conclusion, the AHP method can be a strategic alternative in making recruitment decisions that are more measurable and transparent.

Keywords: Academic Qualification, Personality, Technical Competence

Introduction

In the context of recruitment, AHP is used to help organizations evaluate candidates systematically and objectively. By establishing a set of selection criteria—such as educational background, work experience, psychological test results, and communication skills—decision-makers can quantitatively compare each candidate. This process reduces subjectivity and accelerates the selection process by simplifying the complexity of the choices. Previous studies have shown that using AHP in recruitment can improve candidate selection accuracy and

expedite decision-making, particularly in the service, government, education, and manufacturing sectors.

One of the main challenges encountered in the recruitment process at Bank Mandiri Taspen is the lengthy duration of each selection stage, which often exceeds the ideal time limit. The recruitment process, which should be efficient, is hampered, particularly during the administrative selection and final candidate assessment stages. This inefficiency not only results in delays in meeting workforce needs but also risks compromising the quality of recruitment decisions due to time pressure and high workloads on the recruitment team.

Table 1.1 Bank Mandiri Taspen Recruitment Stages

Source: Processed by Researchers (2025)

No	Recruitment Stages	Estimated Time	Information	The Role of AHP
1	Recruitment Planning	Normal: 3–5 days Efficient: 1–2 days Late: >7 days	The HR division and user unit compile position requirements, number of employees, and qualifications.	No, but the results become AHP input.
2	Vacancy Announcement	Normal: 1 week Efficient: 2–3 days Late: >10 days	Vacancies are published via job portals, social media, official websites, etc.	No
3	Administrative Selection	Normal: 4–7 days Efficient: 2–3 days Late: >1 week	CV screening based on qualifications (GPA, major, experience, etc.).	AHP can be applied here if there are many selection criteria that need to be prioritized.
4	Competency Test/Psychological Test	Normal: 1 day Efficient: ½ day Late: delayed >3 days	Logic, numerical, language, or personality tests. Usually administered batch-by-batch.	Not directly, but test results can be used as criteria in AHP.
5	HR Interview (soft skills)	Normal: 2 days Efficient: 1 day Late: >3 days	Dig into the candidate's motivation, work attitude, character.	The test results are used to determine criteria and alternatives.
6	Technical Interview (user)	Normal: 2–3 days Efficient: 1 day Late: >5 days	Focus on technical skills appropriate to the position, including case studies.	The test results are used to determine criteria and alternatives.

7	Assessment & Decision Making	Normal: 5 days Efficient: 3 days Late: >10 days	Screening applicants and scoring.	Performing weighting, comparison, AHP calculations
8	Offering Letter & Contract Signature	Normal: 1–2 days Efficient: 1 day Late: >3 days	The offer letter is sent, the candidate agrees, and signs the contract.	No
9	New Employee Orientation	Normal: 3–5 days Efficient: 2 days Late: >7 days	Introduction to work systems, company culture, and basic training.	No

Based on observations and initial interviews with HRD staff at PT Bank Mandiri Taspen, it was discovered that the recruitment process is still conducted manually, particularly from the document selection stage to the final decision-making process. This process takes an average of more than two weeks for each batch of applicants, far exceeding the ideal recruitment time estimate, which generally ranges from 5–7 working days. Furthermore, the lack of a weighting or ranking system for criteria makes the selection process highly dependent on the subjective judgment of each interviewer. As a result, some candidates with superior competencies are not selected, while less suitable candidates advance to the next stage.

Literature Review

Administration

Administration, in the narrow sense, encompasses various administrative activities. Business operations are a crucial part of an organization's activities, primarily because they involve information processing, often referred to as the "lifeblood" of an organization. In this sense, administration typically refers only to administrative activities, including correspondence, secretarial work, and the preparation and filing of reports (Siagian, 2001: 267).

Administration, in the broadest sense, refers to the entire process of carrying out activities based on a specific logic by two or more people with the aim of achieving a predetermined goal using specific infrastructure and resources (Siagian, 2001: 267). A careful consideration of this

broad definition of management reveals that management is a component of management in its broadest sense.

Human Resource Management

According to Kusuma (2021), human resource management is a systematic and strategic process for managing human potential (employees) to optimally contribute to achieving organizational goals. Important aspects of focus include competency development, motivation, and the creation of a work environment that supports productivity and well-being.

Huat and Torrington (1998) describe HRM as "the part of management that deals with people working in an organization." It takes into account the well-being of these people so that they can work effectively as a group and contribute to the success of the organization.

There are several things to note based on this definition, namely:

- a. HRM is a component of management.
- b. Human Resources (HRM) deals with individuals, employees, workers, or staff who work for a company.
- c. HRM is concerned with the health of an organization's employees.
- d. Well-off employees, workers, or staff are expected to contribute to the organization's success and work effectively as a team or group.

Third, Bernardin and Russel (2013: 8) state, "Human resource management concerns the personnel policies, managerial practices, and systems that influence the workforce." In this way, HRM is concerned with the management systems, policies, and practices that affect the workforce. HRM professionals typically perform the following:

- a. Organizational design,
- b. Staffing,
- c. Performance management and appraisal,
- d. Employee training and organizational development,

- e. Reward systems, benefits, and compliance (reward systems, allowances, and compliance).

Fourth, Noe et al. (2010: 4) define HRM as "the policies, practices, and systems that influence employees' behavior, attitudes, and performance." In other words, HRM is "the policies, practices, and systems that influence employee behavior, attitudes, and performance." From this definition, we can draw the following conclusions:

- a. Human Resources (HRM) is a component of management, encompassing such things as planning, organizing, directing, and so on.
- b. HRM deals with human resources (HR), namely individuals who are ready, willing, and able to contribute to the objectives of the organization.
- c. HRM focuses on human well-being so that people can work well together and contribute to the success of the organization.
- d. Human Resources (HRM) encompasses the policies, practices, and systems that influence the behavior, attitudes, and performance of an organization's employees.

Analytical Hierarchy Process

To solve a problem using the Analytical Hierarchy Process (AHP) method, three principles must be understood according to Saaty (1993):

1) Decomposition:

Decomposition is the division of a complete problem into interrelated components in a hierarchical structure, as shown in the figure.

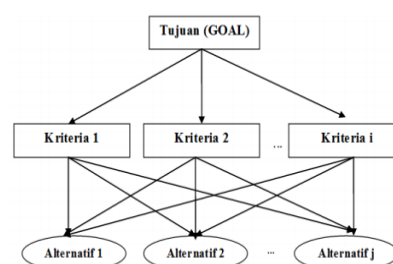


Figure 2.2 Hierarchical Structure

Source: (Saaty, 1980)

2) Comparative Judgment

Comparative judgment is performed by assessing the relative importance of two elements at a given level compared to the level above it. This is done to determine the priority order of each element. To present the results of this assessment, it is convenient to use a pairwise comparison matrix. The following table shows the Analytical Hierarchy Process (AHP) comparison scale for forming pairs.

Table 2.1 Comparison Scale

Source: (Saaty, 1980)

Intensity of Interest	Information	Explanation
1	Both elements are equally important	Two elements contribute equally to the trait
3	One element is slightly more important than the other element	Experience and judgment slightly favor this element over the others
5	One element is more important than the other elements	Experience and strong consideration of one element over another
7	One element is clearly more absolutely important than the other elements.	One element is strongly supported and its dominance has been seen in practice.
9	One element is absolutely more important than the other elements	Evidence favoring one element over another has the highest possible degree of corroboration
2,4,6,8	Values between two adjacent consideration values	When compromise is needed
The opposite	If activity i gets one number compared to activity j, then j has the	

opposite	value
compared to i.	

1) *Logical Consistency* :

Logical Consistency is an important characteristic of the Analytical Hierarchy Process (AHP). Consistency has two meanings: first, that similar objects can be grouped according to uniformity and relevance, and second, it relates to the degree of relationship between objects based on certain criteria.

Methods

In this study, the researcher used a qualitative descriptive approach. According to Sugiyono (2017), qualitative methods can be defined as research methods based on the philosophy of positivism, and are used to examine the natural conditions of objects (as opposed to experiments). In this study, the author wants to see how the Employee Recruitment System uses the Analytical Hierarchy Process (AHP) method at PT. Bank Mandiri Taspen.

Results And Discussion

Interpretation of AHP Results

Based on the results of AHP calculations, both manually using Microsoft Excel and automatically using Expert Choice, the final ranking shows that academic qualifications are the most dominant criteria with the highest weight of 0.4927, compared to other criteria such as personality, academic potential tests, cultural fit, and technical competencies. This confirms that Bank Mandiri Taspen places more emphasis on the formal education level of prospective employees as a basis in the recruitment process, because it is considered to reflect a person's basic abilities and intellectual readiness to work. In line with the dominance of academic qualifications, the results of alternative rankings show that Candidate 1 occupies the highest position with a score of 0.611. This is because Candidate 1 has superior academic qualifications

compared to other candidates, so it is more in line with the company's priorities in selecting new employees. Thus, it can be concluded that recruitment decisions in this study are strongly influenced by academic qualifications, which is also the reason why Candidate 1 is positioned as the best candidate.

Conformity of AHP Results with Informant Opinions

In the interview process, the informant stated that the aspects of Academic Qualification, Personality and Academic Potential Test were the main factors in the selection. The results of the AHP calculation which placed academic qualification as the most dominant criterion with the highest weight, and made Candidate 1 the best alternative, were in line with the opinions of the informants. From the interview results, the informant emphasized that the level of formal education was considered important because it was able to reflect the work readiness and basic competencies of prospective employees. This strengthened the reason why Candidate 1, who had an advantage in the aspect of academic qualification, obtained the highest score in the final ranking. Thus, both the AHP results and the informant's opinions showed a common view that academic qualification was a key factor in recruitment decision making, thus confirming the validity of the results of this study.

Comparison with Manual Recruitment Process

Manual recruitment processes are generally subjective and lack a clear assessment structure. Final decisions often rely on the interviewer's perceptions without measurable weighting. By implementing the AHP method, the selection process becomes more transparent and traceable. Criteria are assessed in pairs, and all candidates are compared based on the same criteria, reducing the potential for bias. While manual methods offer flexibility, the AHP method provides greater consistency and accountability.

Advantages of Implementing AHP in Recruitment

Some of the main advantages of applying the AHP method in the recruitment process include: Providing objective weighting for each selection criterion, Producing transparent

alternative rankings, Can be combined with data from interviews or questionnaires, Suitable for use in selecting a limited number of candidates, AHP also supports collaborative decision making because it can be filled in by several parties and the results are combined consistently.

Implementation Limitations and Challenges

Based on interviews with key informants involved in the recruitment process, it was discovered that knowledge regarding the AHP method is still very limited. Informants stated that the selection process has been carried out manually based on subjective assessments and personal experience, without using a decision support system-based approach. In addition, software such as Expert Choice was also unfamiliar to the recruitment team. The lack of technical understanding of the concept of paired comparisons, logical consistency, and how the application works presents challenges in implementing AHP directly in the field.

On the other hand, the Informant also realized that a more systematic and measurable recruitment process would greatly help improve the accuracy of candidate selection. Therefore, the Informant expressed his readiness to try implementing AHP, and provide training to the recruitment team to understand how AHP and its supporting software, namely Expert Choice, work if the results of this method are proven to be more effective and efficient than the manual assessment method currently used. This shows that although there are still technical limitations and understanding, the opportunity to implement AHP in the future remains open, especially with the support of training and socialization of the method to related parties.

Conclusion

Based on the research conducted through interviews, observations of the recruitment system, and the application of the Analytical Hierarchy Process (AHP) method, both manually and using the Expert Choice application, several important findings were obtained that address the research problem formulation. The following conclusions are formulated to systematically summarize these results:

The employee recruitment system strategy using the AHP method at Bank Mandiri Taspen is implemented by developing a hierarchical structure consisting of objectives, five main criteria (Academic Qualifications, Academic Potential Test, Personality, Technical Competence, and Cultural Fit), and three alternative candidates. The calculations indicate that the AHP method is capable of producing objective ranking results.

The results indicate that the Academic Qualifications criterion received the highest priority score of 0.4927. This finding aligns with Siagian's (2001) opinion, which states that formal education is a key aspect in the recruitment process because it reflects the basic competencies and intellectual readiness of prospective employees. Meanwhile, other criteria such as the Academic Potential Test, Personality, Technical Competence, and Cultural Fit received lower weighting. This indicates that although expert theories emphasize the importance of these various aspects, in the context of Bank Mandiri Taspen, academic qualifications remain the most dominant factor. Thus, there is a gap between the theory that places all criteria as important considerations and the research results that demonstrate the dominance of academic aspects.

Based on data processing using the AHP method, the criteria weighting results show that academic qualifications have the highest weighting, at 0.4927, ranking first. This indicates that education is the most dominant factor in the employee recruitment process at Bank Mandiri Taspen. Furthermore, personality ranked second with a weighting of 0.2110, followed by the academic potential test in third with a weighting of 0.1506. Meanwhile, cultural fit ranked fourth with a weighting of 0.0928, and technical competence ranked fifth with a weighting of 0.0530, as the criteria with the least influence on selection decisions.

Regarding alternative candidates, the calculation results show that Candidate 1 obtained the highest total score of 0.6174, thus ranking first as the most superior candidate. Candidate 2 came in second with a score of 0.2750, while Candidate 3 came in last with a score of 0.1077. These results indicate that, based on all analyzed criteria, Candidate 1 is the best choice, best suited to the company's needs.

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