Faktor Exacta

Vol. 19, No. 1, March 2026, pp. 38~47
eISSN: 2502-339X, pISSN: 1979-276X, https://doi.org/10.30998/faktorexacta.v19i1.2236

Decision Support System for Department Selection Using the Analytical Hierarchy Process (AHP) and Profile Matching Algorithms at Vocational High School: A Case Study at SMK Pembangunan Jaya Yakapi

Sri Rahayu[1], Goenawan Brotosaputro[2]
[1,2] Magister Ilmu Komputer, Universitas Budi Luhur, Jakarta Selatan

Article Info

Article history:

Received 20/02/2026
Revised 14/06/2026
Accepted 25/06/2026

Keywords:

DSS
AHP
Profile Matching
Department
SMK.

ABSTRACT

The annual new student admissions (PPDB) at SMK Pembangunan Jaya Yakapi involve a rigorous selection process that consistently faces challenges due to growing enrollment. Students frequently select majors that do not align with their interests and competencies, which negatively affects academic achievement and often leads to department changes after the first semester. To address these issues, this study implements a Decision Support System (DSS) combining the Analytical Hierarchy Process (AHP) and Profile Matching methods to improve the accuracy of major selection. AHP determines the priority weights of assessment criteria, including students' interests and academic achievement, through a pairwise comparison matrix. Meanwhile, Profile dual student profiles against department requirements to evaluate the optimal fit. This integrated approach establishes an objective selection workflow that better matches students' capabilities with major requirements.

This work is licensed under a CC-BY-NC

Corresponding Author:

Sri Rahayu,
Magister Ilmu Komputer,
Universitas Budi Luhur,
Jakarta Selatan, Indonesia.
Email: 2111600322@student.budiluhur.ac.id

1. INTRODUCTION

The growth of Vocational High Schools (SMK) in Indonesia continues to show a positive trend every year. This phenomenon occurs because more people realize the importance of SMK in producing skilled workers who are ready to face the working world.

The curriculum in SMK follows the guidelines of the Indonesian National Work Competency Standards (SKKNI). In SMK, there are various majors covering a number of expertise programs. Based on the Decree of the Directorate General of Primary and Secondary Education No. 330/D.D5/KEP/KR/2017, there are nine fields of expertise and forty-eight programs of expertise available.

Student success in the learning process at SMK heavily depends on choosing the right major. Mistakes when choosing a major can lead to low motivation, poor academic performance, and insufficient skill mastery. These mistakes are often caused by factors such as prestige, parental influence, following peers, or a lack of options.

SMK Pembangunan Jaya Yakapi offers four majors: Software Engineering (RPL), Computer and Network Engineering (TKJ), Automation and Office Governance (OTKP), and Accounting and Institutional Finance (AKL). Unfortunately, prospective students' major selections are often not based on a deep understanding of the program. Many students choose a major simply based on trends or the number of friends choosing the same program. In addition, the New Student Admission (PPDB) selection process at this school

typically relies only on average School Exam scores and written tests, without considering the alignment between student competencies and the requirements of the majors.

In this study, the researchers utilized the Analytical Hierarchy Process (AHP) and Profile Matching methods for majors determination. AHP is an effective method for handling multi-criteria problems. In the context of determining majors, many factors need to be considered, such as academic scores, interests, talents, and interview results. AHP enables systematic and structured decision-making by decomposing a complex problem into a more manageable hierarchy. AHP is highly useful in determining the relative weights of various criteria used in the selection process, as each criterion may have a different level of importance in determining the most suitable major for a student. Profile Matching helps match the competency profile of students with the competencies required by each major. By using Profile Matching, the system can evaluate the extent to which a student's profile matches the department requirements, thereby increasing the accuracy and validity of student placement. The combination of AHP and Profile Matching provides a holistic and comprehensive approach. AHP provides a framework to determine criteria weights objectively, while Profile Matching ensures that students are placed in majors that best suit their competencies. This results in fairer and more accurate decisions. The AHP and Profile Matching methods can be adapted to various situations and needs. These methods are flexible in handling changes in criteria or weights that may occur over time, making them a sustainable choice for long-term use.

Based on previous research by Monsya Juansen (2022), the Analytical Hierarchy Process (AHP) and Profile Matching methods are viable for supporting organizational decisions. An example of applying the AHP method in majors determination can be found in a study at SMA N 1 Mojo, which identified three main criteria: Interest, Academic Score, and Interview. That study showed that the decision support system using the AHP method succeeded with an accuracy rate close to 95% (Samudro et al., 2022). Additionally, a similar system was implemented at SMK Doa Bangsa using AHP to determine major choices based on three criteria: Talent, Interest, and Test Scores. In that system, Talent was considered the most important criterion with a weight of 49.7%, followed by Interest with a weight of 41.4%, and Test Scores with a weight of 8.1% (Oktapiani et al., 2020).

The ultimate goal of this research is to enable prospective students to discover their self-potential so they can choose the right major.

2. METHOD

In this decision support system research for majors determination, the methodology used is a quantitative method. This quantitative research develops and utilizes mathematical models, theories, and hypotheses. The existing criteria have been determined since the beginning of the study.

This Decision Support System (DSS) research is used to analyze the majors determination process for prospective new students at SMK Pembangunan Jaya Yakapi. The DSS models applied are the Analytical Hierarchy Process (AHP) and Profile Matching methods. The results of this study are expected to assist the new student admission committee in the majors determination process at SMK Pembangunan Jaya Yakapi.

2.1 *Analytical Hierarchy Process* (AHP)

The Analytical Hierarchy Process (AHP) is a functional hierarchy whose primary input is human perception. With a hierarchy, a complex and unstructured problem is broken down into groups that are arranged into a hierarchical form. The AHP model uses the perception of humans who are considered "experts" as its main input. The "expert" criterion here does not mean that the person must be a genius, highly intelligent, or hold a doctoral degree, but rather refers to someone who thoroughly understands the proposed problem, experiences the effects of the problem, or has an interest in the matter (Suryadi, 2022).

In solving problems with AHP, several core principles must be understood, including:

1. *Decomposition*, This is the process of breaking down or dividing a whole problem into its constituent elements into a hierarchical decision-making form, where each element is interconnected. The decision hierarchy structure can be categorized as complete or incomplete. A decision hierarchy is called complete if all elements at one level have a relationship with all elements at the next level, while an incomplete decision hierarchy is the opposite of a complete hierarchy.

   The structure of the decomposition is as follows::

   First level : Decision Goal
   Second level : Criteria
   Third level : Alternatives

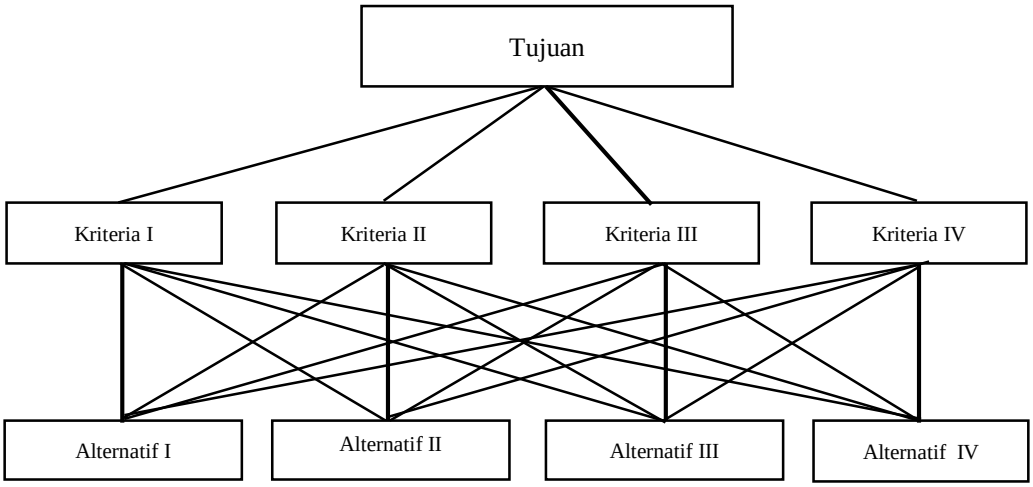

Figure 1. AHP Hierarchy Structure

The AHP hierarchy is used to assist the decision-making process in a system by considering all involved decision elements.

2. *Comparative Judgement*, This is an assessment carried out based on the relative importance of two elements at a certain level in relation to the level above it. Comparative Judgment is the core of using AHP because it affects the priority order of its elements. The results of this assessment will be displayed in the form of a pairwise comparison matrix, which contains the preference levels of several alternatives for each criterion. Criteria and alternatives are evaluated using pairwise comparisons. According to Saaty (1988), for various individuals, a scale of 1 to 9 is the best scale to express opinions. The values and definitions of qualitative opinions from the Saaty comparison scale can be measured using an analytical table as shown in Table 1.

Table 1. Intensity of Importance

Intensity of Importance	Description
1	Both elements are equally important.
3	One element is slightly more important than the other.
5	One element is moderately more important than the other.
7	One element is strongly more important than the other.
9	One element is absolutely more important than the other.
2,4,6,8	Intermediate values between two adjacent judgment values.
Reciprocal	If activity i gets one number compared to activity j, then j has the reciprocal value compared to i.

3. *Synthesis of priority* (Menentukan prioritas), Synthesis of priority is performed using the eigenvector method to obtain relative weights for the decision-making elements. For each criterion and alternative, pairwise comparisons must be conducted. The relative comparison values of all alternative criteria can be adjusted according to the determined judgments to produce weights and priorities. Weights and priorities are calculated by manipulating matrices or through mathematical equations.
4. *Logical Consistency* (Konsistensi logis), Logical consistency is performed by aggregating all eigenvectors obtained from various hierarchical levels to subsequently obtain a weighted composite vector that yields the decision-making order. Consistency has two meanings. First, similar objects can be grouped according to uniformity and relevance. Second, it concerns the level of relationship between objects based on specific criteria.

2.2 Population and Sample Selection Method

The sample selection method used in this study is the Purposive Sampling method, which aligns with the research objectives. The sample used in this study consists of 10 first-semester students across all majors at SMK Pembangunan Jaya Yakapi. This sampling technique is expected to help represent the condition of the prospective new student selection at SMK Pembangunan Jaya Yakapi.

2.3 Data Collection Method

Data collection uses research instruments, and data analysis is quantitative with the aim of testing the established hypotheses. The data collection methods used by the researcher in this study are:

1. Interview
   Interviews were conducted with the management of SMK Pembangunan Jaya Yakapi, including the Principal, Vice Principal of Curriculum, Vice Principal of Student Affairs as the chairperson of the new student admission committee, Heads of Departments, and vocational teachers.
2. Observation
   Direct observation of the research object. The observation technique was carried out through structured observation by preparing a list of data requirements and data sources.
3. Questionnaire
   Creating a list of pre-arranged written questions and distributing them to respondents.
4. Literature Study
   Collecting data by studying, researching, and reading books, internet information, journals, and other sources related to Decision Support Systems using the AHP and Profile Matching methods.
   The data sources in this study consist of two types:
   1. Primary Data, Data obtained directly from the source, namely the list of students in each major at SMK Pembangunan Jaya Yakapi.
   2. Secondary Data, Data obtained indirectly, such as from literature, documentation, reference books, journals, or other references related to majors determination research.

2.4 Instrumentation

The instruments used in this research are:

1. Data and information obtained from interviews, student documents related to student data in each department, and other documents related to new student admission.
2. Literature regarding the basic concepts of the AHP and Profile Matching methods.
3. The software used in this DSS research uses a desktop-based programming application, namely Microsoft Visual Basic.Net, and a Microsoft SQL Server database for data storage.

2.5 Analysis, Design, and Testing Techniques

2.5.1 Analysis Technique

In the analysis process, the techniques performed are:

1. Analysis of data and information for system requirements to be used in solving majors determination problems, obtained from interviews, observations, and literature studies.
2. Using the AHP and Profile Matching methods in majors determination decision-making.
3. The analysis technique used in this study is quantitative descriptive analysis.

2.5.2 Design Technique

The design technique represents the stages in creating the detailed DSS. In this design, the researcher uses the Extreme Programming (XP) model. This method is a model with a structured system flow consisting of Planning, Design, Coding, and Testing stages.

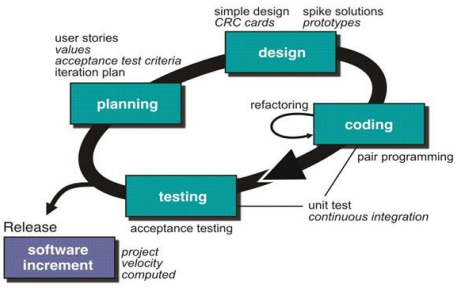

Figure 2.Extreme Programming Method Stages

1. *Planning*, This stage is the initial step in system development where several planning activities are carried out, namely problem identification, requirements analysis, and establishing the system development schedule..

2. *Design*, The next stage is design, where modeling activities are carried out starting from system modeling, architectural modeling, to database modeling. System and architectural modeling use Unified Modeling Language (UML) diagrams, while database modeling uses Entity Relationship Diagrams (ERD).
3. *Coding*, This stage involves implementing the created models into user interfaces using a programming language. The programming language used is PHP with a structured method. For the database management system, MySQL software is utilized.
4. *Testing*, After the coding stage is complete, system testing is conducted to identify any errors that occur while the application is running and to ensure whether the built system meets user requirements. The testing method used is black-box testing, which tests whether various input forms run according to their respective functions.

2.5.3 Testing Technique

Testing is conducted to ensure whether the requirements specifications have been accommodated in the developed software/system. Furthermore, it evaluates whether the DSS application using AHP and Profile Matching functions properly to provide recommendation data for majors determination.

Validation testing using a black-box testing approach provides final assurance that the software meets all informational, functional, behavioral, and performance requirements before being handed over to the user.

3. RESULT AND DISCUSSION

This section discusses the processing of data obtained from field research. The collected data consists of department data to be used as a sample in the study, with 10 samples utilized for model validation.

3.1. Grouping and Analysis

3.1.1 Data Grouping

For majors determination, 10 student records were obtained from SMK Pembangunan Jaya Yakapi, consisting of 4 predictor attributes and 1 result attribute. This study aims to determine the accuracy of majors determination eligibility calculated using the AHP and Profile Matching algorithms, thereby increasing objectivity in decision-making. Afterward, a comparison of accuracy values between the two algorithms is performed to evaluate their respective effectiveness.

3.1.2 Analytical Hierarchy Process (AHP) Algorithm Calculation

This study applies the AHP and Profile Matching methods to determine majors in a vocational school. The decision-maker applies the AHP method using 4 criteria and 10 student samples.

1. Criteria Data
   Table 3.1 is the criteria table used for comparison, corresponding to the criteria needs for determining student majors at SMK Pembangunan Jaya Yakapi.

Table 1. Sub Kriteria

No	Criterion Code	Criterion	CF (%)	SF (%)
1	K1	Nilai Mata Pelajaran	40	60
2	K2	Nilai Wawancara	30	70
3	K3	Minat	50	50
4	K4	Nilai Prestasi Akademik	60	40

2. Alternative Data
   Alternative samples were selected using a simple random sampling technique by directly selecting 10 prospective students.

Table 2. Alternative Data

No	Department Code	Department Name
1	RPL	Software Engineering (*Rekayasa Perangkat Lunak*)
2	TKJ	Computer and Network Engineering (*Teknik Komputer dan Jaringan*)
3	OTKP	Automation and Office Governance (*Otomatisasi Tata Kelola Perkantoran*)
4	AKL	Accounting and Institutional Finance (*Akuntansi Keuangan dan Lembaga*)

3. Department Alternatives with Criteria Profiles
   The data for department alternatives with criteria profiles were obtained from relevant sources as a reference in data collection.

Table 3. Department Alternatives with Criteria Profiles

Department Code	Department Name	K1	K2	K3	K4
RPL	Software Engineering	85	80	90	88
TKJ	Computer and Network Engineering	82	85	85	87
OTKP	Automation and Office Governance	80	78	88	85
AKL	Accounting and Institutional Finance	88	83	87	90

4. Calculation with the Analytical Hierarchy Process (AHP) Method

The following is the method to establish the weights of all criteria using the AHP model. In the context of majors determination at SMK Pembangunan Jaya Yakapi, the criteria include subject scores, interest, academic achievement scores, and interview results evaluated by the principal, vice principal, and department coordinators.

a. The matrix is multiplied by itself using the row x column method.

Table 4. Comparison Matrix

No	Criterion	School Subjects Score	Interview Score	Interest	Academic Achievement Score
1	School Subjects Score	1,000	0,500	0,200	0,333
2	Interview Score	2,000	1,000	0,500	0,250
3	Interest	5,000	2,000	1,000	0,333
4	Academic Achievement Score	3,000	4,000	3,000	1,000

b. The result of the matrix multiplication row x column

Table 5. Matrix Multiplication Results

No	Criterion	School Subjects Score	Interview Score	Interest	Academic Achievement Score
1	School Subjects Score	3,999	2,732	1,649	0,858
2	Interview Score	7,250	4,000	2,150	1,333
3	Interest	14,999	7,832	3,999	2,831
4	Academic Achievement Score	29,000	15,500	8,600	3,998

c. Summing up each row of the matrix multiplication results

Table 6. Row Sum Results

No	Row Sum Results	Row Sum
1	School Subjects Score	9,238
2	Interview Score	14,733
3	Interest	29,661
4	Academic Achievement Score	57,098
	Total jumlah baris	110,729

d. Normalizing by dividing each row sum by the total row sum yields the Eigenvector (Weight). The weights resulting from this pairwise comparison matrix normalization represent the relative importance level of each criterion in the decision-making process.

Table 7. Eigenvector Results

No	Criterion	Eigenvector
1	School Subjects Score	0,083
2	Interview Score	0,133
3	Interest	0,268
4	Academic Achievement Score	0,516
	Total Weight	1,000

e. Multiplying the criteria matrix elements by the eigenvector yields the weighted sum vector

Table 8. Eigenvector Multiplication Product

No	Criterion	Eigenvector
1	School Subjects Score (K1)	0,375
2	Interview Score (K2)	0,562
3	Interest (K3)	1,121

4	Academic Achievement Score (K4)	2,101

f. Calculate the Consistency Vector by dividing the Weighted Value by the Eigenvector

Table 9. Consistency Vector Calculation Results

No	Weighted Value		Eigenvector		*Consistency Vector*
1	0,375		0,083		4,517
2	0,562	:	0,133	=	4,226
3	1,121		0,268		4,182
4	2,101		0,516		4,072

g. Calculate the mean value of the Consistency Vector using equation (2)

$$x = \frac{(4{,}517 + 4{,}226 + 4{,}182 + 4{,}072)}{4} = 4{,}250 \quad (2)$$

h. Calculate the Consistency (CI) Index using equation (3)

$$CI = \frac{(4{,}250 - 4)}{4 - 1} \quad (3)$$

$$CI = 0{,}083$$

i. To calculate the Consistency Ratio (CR), the Random Consistency Index (RI) value obtained from the Oakridge table is required For n = 4 the RI value is 0,90 Using equation (4)

$$CR = \frac{0{,}083}{0{,}90} \quad (4)$$

$$CR = 0{,}092$$

The comparison value becomes consistent if CR < 0,1 Therefore, the criteria comparison for student major recommendations at SMK Pembangunan Jaya Yakapi is consistent, and no adjustment to the criteria Eigenvectors (Weights) is needed.

3.1.3 Profile Matching Algorithm Calculation

In calculating student placement using the Profile Matching method, criteria and weights are required. The generated output is a ranking from the highest alternative to the lowest alternative, where the alternatives refer to the majors. In this case, criteria have sub-criteria categorized into two types: core factor and secondary factor. The core factor has a weight of 60%, while the secondary factor has a weight of 40%. Calculations will be carried out for the Computer and Network Engineering (TKJ), Automation and Office Governance (OTKP), Accounting and Institutional Finance (AKL), and Software Engineering (RPL) majors.

1. The criteria required for Computer and Network Engineering (TKJ), Automation and Office Governance (OTKP), Accounting and Institutional Finance (AKL) and Software Engineering (RPL).

Table 10. Criteria Specifications

No	Criterion	Criterion Code	Specification	Profile Value	Status
1	School Subjects Score	K1	Subject Grade	3	CF
2	Interview Score	K2	Interview performance	1	CF
3	Interest	K3	Selected interest	3	CF
4	Academic Achievement Score	K4	Selected interest	3	CF

2. Gap Mapping and Value Weights
   After calculating the difference (gap) between the student profile and the department profile, the final total scores for TKJ, OTKP, AKL, and RPL are generated as shown in Table 3.11.

Table 11. Total Score Comparison Results

No	Nama	Minat	Nilai TKJ	Nilai OTKP	Nilai AKL	Nilai RPL	Hasil Akhir
1	Reza	TKJ	8,4	7,2	6,18	7,4	TKJ
2	Fahmi	OTKP	7,2	8,5	5,04	6,4	OTKP
3	Nazla	TKJ	8,4	6,2	6,18	7,2	TKJ
4	Raihan	AKL	6,4	6	8,4	6,2	AKL
5	Imam	RPL	7,4	6,5	6,5	8,5	RPL
6	Syakir	TKJ	8,4	7,2	6,18	7,4	TKJ
7	Guntur	OTKP	7,2	8,5	5,04	6,4	OTKP
8	Ahmad	TKJ	8,4	6,2	6,18	7,2	TKJ
9	Bandi	AKL	6,4	6	8,4	6,2	AKL
10	Santi	RPL	7,4	6,5	6,5	8,5	RPL

3. Core Factor and Secondary Factor Calculation
   a. TKJ Score Criteria
      1) *Core factor*
      Sub-criteria included in the core factor for TKJ are Network System Administration and Network Infrastructure.
      2) *Secondary factor*
      Sub-criteria included in the secondary factor for TKJ are Network System Administration and Network Infrastructure. Based on the formula for grouping the core factor and secondary factor, the results for the TKJ score criteria are obtained.

   b. OTKP Score Criteria
      1) *Core factor*
      Sub-criteria included in the core factor for OTKP are Archiving and Financial Management.
      2) *Secondary factor*
      Sub-criteria included in the secondary factor for OTKP are Archiving and Financial Management. Based on the formula for grouping the core factor and secondary factor, the results for the OTKP score criteria are obtained.

   c. AKL Score Criteria
      1) *Core factor*
      Sub-criteria included in the core factor for AKL are Tax Administration and Cost Accounting.
      2) *Secondary factor*
      Sub-criteria included in the secondary factor for AKL are Tax Administration and Cost Accounting. Based on the formula for grouping the core factor and secondary factor, the results for the AKL score criteria are obtained.

   d. RPL Score Criteria
      1) *Core factor*
      Sub-criteria included in the core factor for RPL are Basic Programming and Software Modeling.
      2) *Secondary factor*
      Sub-criteria included in the secondary factor for RPL are Basic Programming and Software Modeling. Based on the formula for grouping the core factor and secondary factor, the results for the RPL score criteria are obtained.

From the calculations performed, the final decisions are generated as follows:

Table 12. Final Decision Results Table

No	Name	Final Result
1	Reza	TKJ
2	Fahmi	OTKP
3	Nazla	TKJ
4	Raihan	AKL
5	Imam	RPL
6	Syakir	TKJ
7	Guntur	OTKP
8	Ahmad	TKJ

9	Bandi	AKL
10	Santi	RPL

4. CLOSING

Based on the problem formulation, research objectives, performance measurement of the two algorithms, and the amount of data processed, it can be concluded that the Analytical Hierarchy Process (AHP) and Profile Matching methods are capable of making decisions to determine student majors. The conclusions drawn from the experiments are as follows:

1. Based on the research findings, the Analytical Hierarchy Process (AHP) and Profile Matching algorithms are proven effective in determining student majors at SMK Pembangunan Jaya Yakapi. Both algorithms were successfully implemented to process data and provide department recommendations that align with student competencies.
2. The AHP and Profile Matching algorithms demonstrate a high level of accuracy in the student majors determination process. Evaluation results indicate that this method can achieve an accuracy rate of up to 85% in matching student competencies with the appropriate major. Comparisons with other methods show that AHP and Profile Matching have superior performance in terms of accuracy.

The implementation of the AHP and Profile Matching methods in this study succeeded in determining the correct majors for students with a compatibility level reaching 85%. This indicates that the method is not only theoretically valid but also practically effective, minimizing placement errors and improving student satisfaction as well as academic achievement..

REFERENCES

Books:

[1] Dicky, N. 2021. *Sistem Pendukung Keputusan: Teori dan Implementasi*. Medan: Yayasan Kita Menulis.

[2] Hoffer, J. A., Venkataraman, R., & Topi, H. 2019. *Modern Database Management* (13th Edition). New Jersey: Pearson Education, Inc.

[3] Marimin. 2017. Sistem Pendukung Pengambilan Keputusan dan Sistem Pakar, Bogor: PT. Penerbit IPB Press.

[4] Marimin, dkk. 2020. *Teknik dan Analisis Pengambilan Keputusan Fuzzy dalam Manajemen Rantai Pasok (Edisi Revisi)*. Bogor: PT Penerbit IPB Press.

Journals:

[5] Samudro, A. T., dkk. (2022). 'Sistem Pendukung Keputusan Rekomendasi Jurusan Siswa Menggunakan Algoritma Analytical Hierarchy Process dan Profile Matching', *Jurnal JTIK (Jurnal Teknologi Informasi dan Komunikasi)*, 6(3), pp. 312-320.

[6] Siregar, M., & Windarto, A. P. (2023). 'Analisis Metode AHP dan Profile Matching dalam Menentukan Penempatan Jurusan Siswa Baru', *Jurnal Sistem Informasi dan Ilmu Komputer*, 2(1), pp. 45-54.

[7] Saputra, R., & Hartati, S. (2021). 'Penerapan Metode Profile Matching dan AHP untuk Penentuan Kelayakan Penempatan Jurusan', *Jurnal RESTI (Rekayasa Sistem dan Teknologi Informasi)*, 5(2), pp. 290-298.

[8] Ramadan, S., & Fitriani, D. (2021). 'Sistem Pendukung Keputusan Penerimaan Siswa Baru Berbasis Web Menggunakan Metode AHP', *Jurnal Informatika dan Teknologi Komputer*, 2(2), pp. 115-124.

[9] Lestari, T., & Nugroho, A. (2022). 'Implementasi Metode SAW dan AHP dalam Pemilihan Sekolah Menengah Kejuruan Terbaik', *Jurnal Media Informatika Budidarma*, 6(1), pp. 410-418.

[10] Wibowo, A., dkk. (2021). 'Sistem Pendukung Keputusan Kenaikan Pangkat Menggunakan Metode Profile Matching Pada Instansi Pemerintahan', *Jurnal Tata Kelola dan Kesiapan Teknologi Informasi*, 3(3), pp. 201-210.

[11] Suryana, A., & Hermawan, R. (2024). 'Sistem Pendukung Keputusan Penentuan Penerima Bantuan Siswa Miskin Menggunakan Metode Analytical Hierarchy Process (AHP)', *Jurnal Teknologi Sistem Informasi dan Komputer*, 7(1), pp. 112-121.

[12] Sari, I. P., & Syahputra, T. (2023). 'Penerapan Metode Simple Additive Weighting (SAW) dalam Sistem Pendukung Keputusan Penerimaan Siswa Baru', *Jurnal Teknologi Sistem Informasi dan Aplikasi*, 6(2), pp. 184-192.

[13] Handayani, W., & Pratama, A. (2023). 'Sistem Pendukung Keputusan Rekomendasi Penerima Beasiswa Menggunakan Metode Kombinasi AHP dan TOPSIS', *Jurnal Teknologi dan Sistem Informasi*, 4(1), pp. 12-21.
[14] Oktapiani, R., dkk. (2020). 'Penerapan Metode AHP Untuk Penentuan Jurusan di SMK', *Jurnal Ilmu Komputer dan Informatika*, 4(2), pp. 88-95.
[15] Gunawan, I., dkk. (2022). 'Penerapan Metode Fuzzy-TOPSIS dalam Penentuan Kriteria Bantuan Siswa Kurang Mampu', *Jurnal Informatic Research and Development*, 4(2), pp. 75-83.
[16] Sihotang, M., & Sitanggang, F. (2024). 'Kombinasi Metode Analytical Hierarchy Process (AHP) dan Profile Matching dalam Sistem Pendukung Keputusan Multi-Kriteria', *Jurnal Teknologi Informasi dan Sistem Komputer*, 7(1), pp. 142-151.
[17] Hidayat, R., & Sari, M. P. (2024). 'Analisis Komparasi Metode AHP-TOPSIS dan ANP-TOPSIS dalam Mengukur Kinerja Sumber Daya Manusia', *Jurnal Sains dan Teknologi*, 13(1), pp. 88-97.
[18] Riyanto, A., & Nugroho, S. (2023). 'Penerapan Metode Analytic Hierarchy Process (AHP) dalam Pemilihan Mahasiswa Berprestasi Tingkat Fakultas', *Jurnal Sistem Informasi dan Ilmu Komputer*, 2(2), pp. 105-114.
[19] Pratama, F. A., & Handayani, W. (2024). 'Analisis Komparasi Metode Profile Matching dan Simple Additive Weighting (SAW) untuk Rekomendasi Promosi Jabatan Karyawan', *Jurnal Teknologi Sistem Informasi*, 7(2), pp. 210-219.
[20] Ramadhan, R., & Gunawan, I. (2024). 'Sistem Pendukung Keputusan Penerimaan dan Penempatan Siswa Baru Menggunakan Metode Profile Matching di Sekolah Menengah Kejuruan', *Jurnal Informatika dan Rekayasa Perangkat Lunak*, 6(1), pp. 34-43.