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Decision Support System for Determining the Best Internship Students Using the Combined Compromise Solution Method

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Abstract−Interns are individuals who are undergoing a period of practical learning in an organization or company as part of their educational curriculum. During the internship, students have the opportunity to apply the knowledge they learn in class to real-world situations, as well as gain valuable work experience. The selection of the best intern can involve several problems or challenges. One of them is the difficulty in evaluating students' practical skills based solely on their academic performance. The Decision Support System (DSS) to determine the best internship students using the Combined Compromise Solution Method provides a holistic approach in the selection process. This method combines elements of the Compromise Solution Method that consider compromise solutions between alternatives. With this comprehensive approach, DSS can assist institutions or companies in selecting internship students that best suit their needs and expectations, as well as ensure the success of internships that are beneficial to both parties. The results of the ranking of the best internship student alternatives showed that rank 1st with a value of 5.7847 was obtained by Jonathan, rank 2nd with a value of 5.2625 was obtained by Handoko R, and rank 3rd with a value of 4.6117 was obtained by M. Ali Fikri. The results of this ranking help companies determine the best internship students by applying the combine compromise solution method.

Keywords: Alternative; Best; Combined Compromise Solution Method; Decision Support System; Internship

1. INTRODUCTION

Interns are individuals who are undergoing a period of practical learning in an organization or company as part of their educational curriculum. During the internship, students have the opportunity to apply the knowledge they learn in class to real-world situations, as well as gain valuable work experience. By undertaking internships, students can develop their technical and interpersonal skills, expand their professional network, and explore career fields that may be of interest in the future[1]. In addition, internships also provide opportunities for students to discover new interests and talents, and help them prepare for the workforce after graduation. The selection of the best interns involves evaluating a variety of factors, including academic achievement, interpersonal skills, motivation, as well as relevance between the student's course of study and the company's needs. Students who demonstrate high dedication to work, willingness to learn and adapt to new environments, and have good communication skills have the potential to become successful interns. In addition, the ability to work in a team, initiative in completing tasks, and the ability to face challenges with flexibility are also important considerations in the selection of the best interns. A careful selection process will help ensure that employers get the maximum benefit from internship student contributions as well as provide valuable experience for those students[2]. The selection of the best intern can involve several problems or challenges. One of them is the difficulty in evaluating students' practical skills based solely on their academic performance. Some students may have high academic grades, but lack practical skills or expertise relevant to the job offered by the employer. One of the main problems in selecting the Best Intern is the difficulty in establishing objective and relevant assessment criteria. Given limited time and resources, as well as the influence of subjectivity in decision making, selecting the Best Intern is often a complex process and requires a mature approach to ensure the right decision. In addition, it can sometimes be difficult to assess a student's true motivation for doing an internship, whether they are genuinely interested in a particular field or industry, or just taking an internship as a formality. Companies can also face difficulties in finding students who match their company's culture and values. The selection of the Best Internship Student has great urgency because internship students play an important role in filling workforce needs and helping to advance organizational or company goals. Interns not only make direct contributions in specific projects, but also bring fresh ideas and new thinking that can stimulate innovation and growth.

The previous research that became the literature in this study was conducted by Manik (2022) the Simple Addictive Weighting (SAW) method in accepting internships with the results of this study of 0.9760 obtained by alternative A1 being the highest rank[3]. Research from Paliling (2022) The administration department is able to determine the placement of students who will intern quickly, precisely, and objectively by applying the Analytical Hierarchy Process (AHP) method[4]. Research from Sihombing (2024) The SAW method was chosen because of its ability to evaluate by considering the weight given to each criterion. The results showed that Alternative A4, represented by, was rated as the top alternative with a value of 0.9472[5]. Research from Maharrani (2021) the use of

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the MAUT (Multi Attribute Utility Theory) method helps in making decisions on internship place recommendations, the MAUT method will process the assessment of each criterion according to the specified weight[6]. Finally, research from Sinambela (2023) uses the Technique For Others Reference by Similarity to Ideal Solution (TOPSIS) method as a modeling in the decision to determine the admission of internship students[7].

A Decision Support System (DSS) is a system designed to assist decision making using certain data, models, and algorithms[8]. DSS helps in simplifying the complexity of decision making by providing relevant information, analyzing various alternatives, as well as presenting recommendations that can be used by decision makers. This system can be used in a variety of contexts, from business, management, planning, to resource management. DSS typically consists of several components, including a database to store data, mathematical or statistical models to analyze the data, a user interface to interact with the system, and an inference engine or algorithm to generate recommendations[9]. By utilizing DSS, decision makers can obtain more detailed information, speed up the decision-making process, and increase the accuracy and consistency of decisions taken. The main advantage of DSS is its ability to process data quickly and accurately, and provide solutions or recommendations supported by detailed analysis. The use of DSS can reduce the level of uncertainty in decision making, optimize organizational performance, and improve the efficiency of business processes[10]–[12]. However, it is important to note that DSS is not a substitute for human decision makers, but rather a tool that assists them in making better and more informed decisions. Therefore, the use of DSS must be accompanied by a good understanding of the business context or situation at hand, as well as adequate knowledge in interpreting the results produced by this system. One method in the decision support system is the Combined Compromise Solution.

Combined Compromise Solution is a decision-making approach that integrates the preferences and priorities of various stakeholders to achieve a solution that is mutually accepted[13]–[15]. This method involves identifying common ground among conflicting interests and synthesizing various proposals into a single compromise that optimizes overall satisfaction. Combined compromise solutions emphasize collaboration, negotiation, and consensus building to address complex issues and achieve sustainable outcomes. By considering diverse viewpoints and balancing competing goals, combined compromise solutions promote harmony, fairness, and effectiveness in decision-making processes in areas such as business, politics, and community development[16]–[19]. This approach recognizes the value of compromise as a way to resolve disputes and advance cooperation among stakeholders with different interests, ultimately resulting in more robust and inclusive solutions. The Combined Compromise Solution involves steps such as identifying key stakeholders, mapping their interests and priorities, and finding common ground among different perspectives and needs. Then, through open and collaborative dialogue, stakeholders seek to reach an agreement that accommodates the interests of all parties fairly. In this process, there is an exchange of information, argumentation, and negotiation aimed at reaching a sustainable consensus. The importance of Combined Compromise Solution lies in its ability to resolve conflicts and reach a solution that is acceptable to all parties involved, thus minimizing potential negative consequences and maximizing beneficial outcomes for all parties concerned[20][19]. The gap in the research of selecting the Best Intern using the Combined Compromise Solution Method lies in the optimal integration between the specific needs of the organization or company with objective and continuous assessment criteria. This method requires to consider a variety of factors, including academic performance, previous work experience, interpersonal skills, and fit into the company culture.

The importance of Combined Compromise Solution lies in its ability to resolve conflicts and reach a solution that is acceptable to all parties involved, thus minimizing potential negative consequences and maximizing beneficial outcomes for all parties concerned. This method aims to provide a comprehensive framework to consider various relevant aspects in the selection of the best interns. The system also aims to increase objectivity and transparency in the selection process, reduce subjectivity, and provide a solid foundation for informed decision making. With this research is to increase effectiveness and accuracy in the selection of the best internship students, so that organizations or companies can utilize quality human resources to achieve their goals optimally. Using the Combined Compromise Solution Method, this research optimizes the decision-making process by integrating various relevant factors and producing the best compromise solution from the various options available. In addition, this system is expected to provide valuable information for both parties, both for organizations or companies in selecting the best internship students, as well as for interns to understand the expectations and requirements needed to succeed in the internship program.

2. RESEARCH METHODOLOGY

2.1 Research Stages

Research stages are systematic steps followed by in carrying out a study or research. This process ensures that research is conducted carefully and organized, and produces valid and relevant findings[11], [12]. The stages of research also make it possible to plan and implement steps in a structured manner, thereby minimizing errors and increasing the success of studies[21]. By following the right stages of research, researchers can make meaningful contributions in the development of knowledge and problem solving in various fields of science. The stages of research carried out are as shown in Figure 1.

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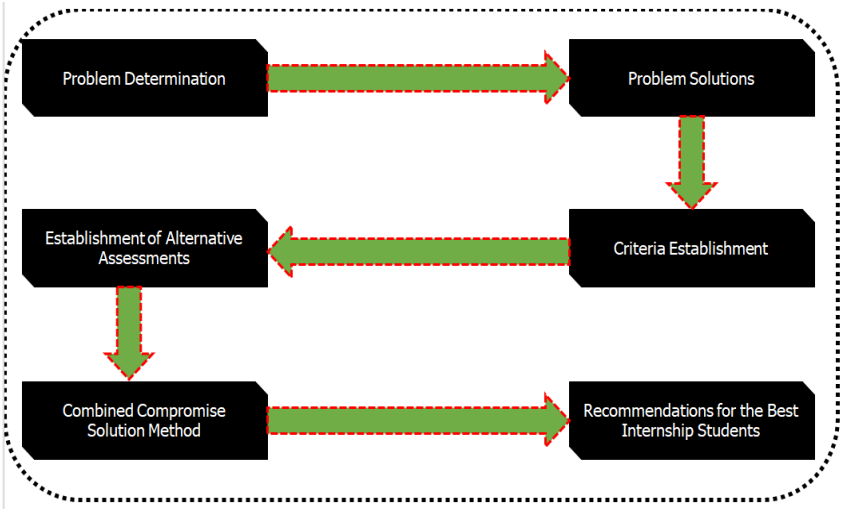

Figure 1. Research Stage

The stages of research figure 1 show the process carried out in this study starting from problem determination, problem solution, criteria establishment, establishment of alternative assessment, combine compromise solution method, and finally recommendations for the best internship students.

2.2 Problem Determination

Problem determination in determining the best intern involves identifying key aspects that must be considered in the evaluation process. The results of the collection of needs are obtained main problems usually include clear assessment criteria, such as students' academic performance, practical abilities relevant to the chosen field of internship, communication and cooperation skills, and the fit of the organizational culture where the internship is carried out. In addition, problems can also relate to the lack of relevant data or ambiguous criteria, as well as challenges in assessing intangible factors such as student motivation, attitude, and work ethic. The importance of determining these issues is to ensure that the process of determining the best interns is carried out objectively and effectively, so that the host company or institution can select the candidate that best suits their needs.

2.3 Problem Solution

The solution to the problem of determining the best intern involves a comprehensive and structured approach using a decision support system model. First, it is necessary to create clear and measurable assessment criteria that cover key aspects such as academic performance, practical skills, interpersonal abilities, and organizational cultural fit. Furthermore, it is necessary to conduct a thorough evaluation of each internship candidate by considering these criteria systematically. In addition, it is important to ensure that there is open communication between parties involved in the internship selection process, including the recruitment team, internship advisors, and students concerned. With a structured and transparent approach, it is hoped that the solution can help the host company or institution to select interns who best suit their needs and expectations.

2.4 Criteria Establishment

The establishment of criteria in determining the best interns plays a key role in ensuring proper and effective selection. Some of the relevant criteria in this process include:

a. Academic performance: Evaluation of student achievement in their studies, including GPA or course grades relevant to the intended internship field.
b. Practical skills: Assessment of students' ability to apply their knowledge in a practical context, such as technical skills, problem solving, and analytical skills.
c. Interpersonal skills: Evaluate students' ability to communicate, work in teams, and adapt to diverse work environments.
d. Work ethics: Assessment of students' ethical behavior, including responsibility, integrity, and professionalism in carrying out their duties.
e. Flexibility and mobility: Consideration of students' ability to work in different environments or be willing to travel if necessary.

By setting these criteria based on the results of data collection at the company, thus ensuring the selection of students who best suit the needs and expectations of the company.

2.5 Establishment of Alternative Assessment

Alternative assessment data is a collection of information used to evaluate and compare prospective interns in a selection context. This data covers various aspects that are relevant to the criteria that have been set from the company.

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Using this data, the selection team can conduct a comprehensive assessment of each prospective intern, enabling them to make informed and evidence-based decisions. Alternative assessment data also plays an important role in ensuring that selected students meet the standards and expectations of the host company or institution, and can contribute positively during the internship.

2.6 Combine Compromise Solution Method

The Combine Compromise Solution Method offers a valuable approach to decision-making in complex scenarios where multiple conflicting goals need to be addressed. By integrating elements from compromise programming and objective programming, this method provides a flexible framework for decision makers to navigate compromise and reach solutions that meet diverse criteria. It allows decision makers to effectively balance competing goals while considering the inherent uncertainties and constraints that exist in real-world decision-making environments. The adaptability and flexibility skills of the Combine Compromise Solution Method make it a valuable tool for addressing multi-criteria decision-making problems across multiple domains, ultimately aiding in the achievement of more informed and robust decisions. The first stage in this method is to calculate the normalized matrix using the following equation.

$$r_{ij} = \frac{x_{ij} - \min x_{ij}}{\max x_{ij} - \min x_{ij}} \quad (1)$$

$$r_{ij} = \frac{\max x_{ij} - x_{ij}}{\max x_{ij} - \min x_{ij}} \quad (2)$$

Where the value of x_{ij} is the value of each alternative i based on an existing j criterion, while r_{ij} is the value of the normalization matrix of alternative I. In calculating the normalization matrix for (1) calculated for criteria with type of benefit and for (2) calculated for criteria with type of cost.
The next step is calculating the Positive Ideal Solution and the Negative Ideal Solution using the following equation.

$$S_i = \sum_{j=1}^{n} r_{ij} * w_j \quad (3)$$

$$P_i = \sum_{j=1}^{n} (r_{ij})^{w_j} \quad (4)$$

S_i is the Positive Ideal Solution and P_i is the Negative Ideal Solution.
The next stage is the calculation of the relative weights of all alternatives using the aggregation calculation technique. In this process there are 3 stages of calculating the assessment score which will produce relative weights using the following equation

$$K_{ia} = \frac{P_i + S_i}{\sum_{i=1}^{m} (P_i + S_i)} \quad (5)$$

$$K_{ib} = \frac{S_i}{\min S_i} + \frac{P_i}{\min P_i} \quad (6)$$

$$K_{ic} = \frac{\lambda(S_i) + \lambda(P_i)}{(\lambda \max S_i + (1-\lambda) \max P_i)} \quad (7)$$

The calculation of the total value of each alternative uses the following equation.

$$K_i = (K_{ia} * K_{ib} * K_{ic})^{\frac{1}{3}} + \frac{1}{3}(K_{ia} + K_{ib} + K_{ic}) \quad (8)$$

2.7 Recommendations for the Best Internship Students

The Best Internship Student Recommendation is the result of a comprehensive evaluation that considers various important factors, such as student performance, skills possessed, quality of work during the internship period, and ability to adapt to the work environment. By integrating these data, the best internship student recommendations can provide a clear view for the company or institution hosting the internship to select candidates that best suit their needs. These recommendations also have the potential to increase students' chances of gaining valuable work experience and building strong professional networks.

3. RESULT AND DISCUSSION

The Decision Support System (DSS) to determine the best internship students using the Combined Compromise Solution Method provides a holistic approach in the selection process. This method combines elements of the Compromise Solution Method that consider compromise solutions between alternatives. With this comprehensive approach, DSS can assist institutions or companies in selecting internship students that best suit their needs and expectations, as well as ensure the success of internships that are beneficial to both parties.

3.1 Criteria Establishment

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In determining the criteria for selecting the best interns, it is necessary to identify factors that are important in assessing the quality of internship students. These criteria include academic ability, technical proficiency related to the internship field, namely Academic performance, Practical skills, Interpersonal skills, Work ethics, and Flexibility and mobility. The criteria used in selecting the best intern students are as in table 1.

Table 1. Criteria Selection Best Internship Students

Criteria ID	Criteria Name	Criteria Weighting
CBIS-1	Academic performance	0.1
CBIS-2	Practical skills	0.3
CBIS-3	Interpersonal skills	0.2
CBIS-4	Work ethics	0.25
CBIS-5	Flexibility and mobility	0.15

The criteria data in table 1 is data used by companies in selecting the best internship students, the data is obtained from collecting needs with the company.

3.2 Establishment of Alternative Assessment

Alternative assessment data also plays an important role in ensuring that selected students meet the standards and expectations of the host company or institution, and can make a positive contribution during the internship. Data on the results of the assessment of internship students as shown in table 2.

Table 2. Alternative Assessment Selection Best Internship Students

Alternative Name	CBIS-1	CBIS-2	CBIS-3	CBIS-4	CBIS-5
Suyanto	95	90	88	90	90
Ahmad Budiman	94	93	90	92	92
Handoko R.	93	94	94	91	94
M. Ali Fikri	90	97	93	94	90
Kurniadi	94	93	90	90	91
Jonathan	93	95	92	93	94
Yulianto	92	95	91	90	93

The alternative assessment data in table 2 is data obtained from companies that have assessed internship students, the data is obtained from collecting needs with companies and will be used in determining the best internship students.

3.3 Combine Compromise Solution Method in Selection Best Internship Students

Application of the combine compromise solution method in the selection of the best interns to achieve balanced and holistic decisions. This approach includes an assessment of interns using criteria of academic achievement, practical skills, interpersonal skills, work ethic, and flexibility and mobility. By integrating these elements, the selection team can gain a deeper understanding of the interns' abilities, personalities, and potentials, ensuring that selected candidates have the optimal combination of skills, motivation, and readiness to succeed in the internship program as well as their future careers. The first step in the combine compromise solution method is to calculate the normalized matrix using the following (1), this is because all the criteria used have the type of benefit. The calculation results are as follows.

$$r_{11} = \frac{x_{11} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{95 - 90}{95 - 90} = 1$$

$$r_{12} = \frac{x_{12} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{94 - 90}{95 - 90} = 0.8$$

$$r_{13} = \frac{x_{13} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{93 - 90}{95 - 90} = 0.6$$

$$r_{14} = \frac{x_{14} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{90 - 90}{95 - 90} = 0$$

$$r_{15} = \frac{x_{15} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{94 - 90}{95 - 90} = 0.8$$

$$r_{16} = \frac{x_{16} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{93 - 90}{95 - 90} = 0.6$$

$$r_{17} = \frac{x_{17} - \min x_{11;17}}{\max x_{11;17} - \min x_{11;17}} = \frac{92 - 90}{95 - 90} = 0.4$$

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$$r_{21} = \frac{x_{21} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{90 - 90}{97 - 90} = 0$$

$$r_{22} = \frac{x_{22} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{93 - 90}{97 - 90} = 0.43$$

$$r_{23} = \frac{x_{23} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{94 - 90}{97 - 90} = 0.57$$

$$r_{24} = \frac{x_{24} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{97 - 90}{97 - 90} = 1$$

$$r_{25} = \frac{x_{25} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{93 - 90}{97 - 90} = 0.43$$

$$r_{26} = \frac{x_{26} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{95 - 90}{97 - 90} = 0.71$$

$$r_{27} = \frac{x_{27} - \min x_{21;27}}{\max x_{21;27} - \min x_{21;27}} = \frac{95 - 90}{97 - 90} = 0.71$$

$$r_{31} = \frac{x_{31} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{88 - 88}{94 - 88} = 0$$

$$r_{32} = \frac{x_{32} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{90 - 88}{94 - 88} = 0.333$$

$$r_{33} = \frac{x_{33} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{94 - 88}{94 - 88} = 1$$

$$r_{34} = \frac{x_{34} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{93 - 88}{94 - 88} = 0.833$$

$$r_{35} = \frac{x_{35} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{90 - 88}{94 - 88} = 0.333$$

$$r_{36} = \frac{x_{36} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{92 - 88}{94 - 88} = 0.667$$

$$r_{37} = \frac{x_{37} - \min x_{31;37}}{\max x_{31;37} - \min x_{31;37}} = \frac{91 - 88}{94 - 88} = 0.5$$

$$r_{41} = \frac{x_{41} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{90 - 90}{94 - 90} = 0$$

$$r_{42} = \frac{x_{42} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{92 - 90}{94 - 90} = 0.5$$

$$r_{43} = \frac{x_{43} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{91 - 90}{94 - 90} = 0.25$$

$$r_{44} = \frac{x_{44} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{94 - 90}{94 - 90} = 1$$

$$r_{45} = \frac{x_{45} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{90 - 90}{94 - 90} = 0$$

$$r_{46} = \frac{x_{46} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{93 - 90}{94 - 90} = 0.75$$

$$r_{47} = \frac{x_{47} - \min x_{41;47}}{\max x_{41;47} - \min x_{41;47}} = \frac{90 - 90}{94 - 90} = 0$$

$$r_{51} = \frac{x_{51} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{90 - 90}{94 - 90} = 0$$

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$$r_{52} = \frac{x_{52} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{92 - 90}{94 - 90} = 0.5$$

$$r_{53} = \frac{x_{53} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{94 - 90}{94 - 90} = 1$$

$$r_{54} = \frac{x_{54} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{90 - 90}{94 - 90} = 0$$

$$r_{55} = \frac{x_{55} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{91 - 90}{94 - 90} = 0.25$$

$$r_{56} = \frac{x_{56} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{94 - 90}{94 - 90} = 1$$

$$r_{57} = \frac{x_{57} - \min x_{51;57}}{\max x_{51;57} - \min x_{51;57}} = \frac{93 - 90}{94 - 90} = 0.75$$

The next step in the combine compromise solution method is calculating the positive ideal solution using the following (3), the results of the calculation of positive ideal solution are as follows.

$$S_1 = \sum_{j=1}^{n} r_{11;51} * w_{1;5}$$

$$S_1 = (r_{11} * w_1) + (r_{21} * w_2) + (r_{31} * w_3) + (r_{41} * w_4) + (r_{51} * w_5)$$

$$S_1 = (1 * 0.1) + (0 * 0.3) + (0 * 0.2) + (0 * 0.25) + (0 * 0.15)$$

$$S_1 = 0.1$$

$$S_2 = \sum_{j=1}^{n} r_{12;52} * w_{1;5}$$

$$S_2 = (r_{12} * w_1) + (r_{22} * w_2) + (r_{32} * w_3) + (r_{42} * w_4) + (r_{52} * w_5)$$

$$S_2 = (0.8 * 0.1) + (0.43 * 0.3) + (0.333 * 0.2) + (0.5 * 0.25) + (0.5 * 0.15)$$

$$S_2 = 0.475$$

$$S_3 = \sum_{j=1}^{n} r_{13;53} * w_{1;5}$$

$$S_3 = (r_{13} * w_1) + (r_{23} * w_2) + (r_{33} * w_3) + (r_{43} * w_4) + (r_{53} * w_5)$$

$$S_3 = (0.6 * 0.1) + (0.57 * 0.3) + (1 * 0.2) + (0.25 * 0.25) + (1 * 0.15)$$

$$S_3 = 0.644$$

$$S_4 = \sum_{j=1}^{n} r_{14;54} * w_{1;5}$$

$$S_4 = (r_{14} * w_1) + (r_{24} * w_2) + (r_{32} * w_3) + (r_{42} * w_4) + (r_{52} * w_5)$$

$$S_4 = (0 * 0.1) + (1 * 0.3) + (0.833 * 0.2) + (1 * 0.25) + (0 * 0.15)$$

$$S_4 = 0.717$$

$$S_5 = \sum_{j=1}^{n} r_{15;55} * w_{1;5}$$

$$S_5 = (r_{15} * w_1) + (r_{25} * w_2) + (r_{35} * w_3) + (r_{45} * w_4) + (r_{55} * w_5)$$

$$S_5 = (0.8 * 0.1) + (0.43 * 0.3) + (0.333 * 0.2) + (0 * 0.25) + (0.25 * 0.15)$$

$$S_5 = 0.313$$

$$S_6 = \sum_{j=1}^{n} r_{16;56} * w_{1;5}$$

$$S_6 = (r_{16} * w_1) + (r_{26} * w_2) + (r_{36} * w_3) + (r_{46} * w_4) + (r_{56} * w_5)$$

$$S_6 = (0.6 * 0.1) + (0.71 * 0.3) + (0.667 * 0.2) + (0.75 * 0.25) + (1 * 0.15)$$

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$$S_6 = 0.745$$

$$S_7 = \sum_{j=1}^{n} r_{17;57} * w_{1;5}$$

$$S_7 = (r_{17} * w_1) + (r_{27} * w_2) + (r_{37} * w_3) + (r_{47} * w_4) + (r_{57} * w_5)$$

$$S_7 = (0.4 * 0.1) + (0.71 * 0.3) + (0.5 * 0.2) + (0 * 0.25) + (0.75 * 0.15)$$

$$S_7 = 0.467$$

The next step in the combine compromise solution method is calculating the negative ideal solution using the following (4), the results of the calculation of negative ideal solution are as follows.

$$P_1 = \sum_{j=1}^{n} (r_{11;51})^{w_{1;5}}$$

$$P_1 = (r_{11}{}^{w_1}) + (r_{21}{}^{w_2}) + (r_{31}{}^{w_3}) + (r_{41}{}^{w_4}) + (r_{41}{}^{w_5})$$

$$P_1 = (1^{0.1}) + (0^{0.3}) + (0^{0.2}) + (0^{0.25}) + (0^{0.15})$$

$$P_1 = 1$$

$$P_2 = \sum_{j=1}^{n} (r_{12;51})^{w_{1;5}}$$

$$P_2 = (r_{12}{}^{w_1}) + (r_{22}{}^{w_2}) + (r_{21}{}^{w_3}) + (r_{42}{}^{w_4}) + (r_{52}{}^{w_5})$$

$$P_2 = (0.8^{0.1}) + (0.43^{0.3}) + (0.333^{0.2}) + (0.5^{0.25}) + (0.5^{0.15})$$

$$P_2 = 4.3$$

$$P_3 = \sum_{j=1}^{n} (r_{13;53})^{w_{1;5}}$$

$$P_3 = (r_{13}{}^{w_1}) + (r_{23}{}^{w_2}) + (r_{33}{}^{w_3}) + (r_{43}{}^{w_4}) + (r_{53}{}^{w_5})$$

$$P_3 = (0.6^{0.1}) + (0.57^{0.3}) + (1^{0.2}) + (0.25^{0.25}) + (1^{0.15})$$

$$P_3 = 4.5$$

$$P_4 = \sum_{j=1}^{n} (r_{14;54})^{w_{1;5}}$$

$$P_4 = (r_{14}{}^{w_1}) + (r_{24}{}^{w_2}) + (r_{34}{}^{w_3}) + (r_{44}{}^{w_4}) + (r_{54}{}^{w_5})$$

$$P_4 = (0^{0.1}) + (1^{0.3}) + (0.833^{0.2}) + (1^{0.25}) + (0^{0.15})$$

$$P_4 = 2.96$$

$$P_5 = \sum_{j=1}^{n} (r_{15;55})^{w_{1;5}}$$

$$P_5 = (r_{15}{}^{w_1}) + (r_{25}{}^{w_2}) + (r_{35}{}^{w_3}) + (r_{45}{}^{w_4}) + (r_{55}{}^{w_5})$$

$$P_5 = (0.8^{0.1}) + (0.43^{0.3}) + (0.333^{0.2}) + (0^{0.25}) + (0.25^{0.15})$$

$$P_5 = 3.37$$

$$P_6 = \sum_{j=1}^{n} (r_{16;56})^{w_{1;5}}$$

$$P_6 = (r_{16}{}^{w_1}) + (r_{26}{}^{w_2}) + (r_{36}{}^{w_3}) + (r_{46}{}^{w_4}) + (r_{56}{}^{w_5})$$

$$P_6 = (0.6^{0.1}) + (0.71^{0.3}) + (0.67^{0.2}) + (0.75^{0.25}) + (1^{0.15})$$

$$P_6 = 4.71$$

$$P_7 = \sum_{j=1}^{n} (r_{17;57})^{w_{1;5}}$$

$$P_7 = (r_{17}{}^{w_1}) + (r_{27}{}^{w_2}) + (r_{37}{}^{w_3}) + (r_{47}{}^{w_4}) + (r_{57}{}^{w_5})$$

$$P_7 = (0.4^{0.1}) + (0.71^{0.3}) + (0.5^{0.2}) + (0^{0.25}) + (0.75^{0.15})$$

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$P_7 = 3.64$

The next stage in the combine compromise solution method is the calculation of the relative weights of all alternatives using the aggregation calculation technique. In this process there are 3 stages of calculating the assessment score which will produce relative weights using the following (5), (6), and (7),

$$K_{ia1} = \frac{S_1 + P_1}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.1 + 1}{24.49 + 2.36} = 0.0394$$

$$K_{ib1} = \frac{S_1}{\min S_{1;7}} + \frac{P_1}{\min P_{1;7}} = \frac{0.1}{0.1} + \frac{1}{1} = 2$$

$$K_{ic1} = \frac{\lambda(S_1) + \lambda(P_1)}{\left(\lambda \max S_{1;7} + (1-\lambda)\max P_{1;7}\right)} = \frac{\lambda(0.1) + \lambda(1)}{(\lambda(0.754) + (1-\lambda)4.71)} = 0.2018$$

$$K_{ia2} = \frac{S_2 + P_2}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.475 + 4.3}{24.49 + 2.36} = 0.1708$$

$$K_{ib2} = \frac{S_2}{\min S_{1;7}} + \frac{P_2}{\min P_{1;7}} = \frac{0.475}{0.1} + \frac{4.3}{1} = 9.0507$$

$$K_{ic2} = \frac{\lambda(S_2) + \lambda(P_2)}{\left(\lambda \max S_{1;7} + (1-\lambda)\max P_{1;7}\right)} = \frac{\lambda(0.475) + \lambda(4.3)}{(\lambda(0.754) + (1-\lambda)4.71)} = 0.8756$$

$$K_{ia3} = \frac{S_3 + P_3}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.644 + 4.5}{24.49 + 2.36} = 0.1842$$

$$K_{ib3} = \frac{S_3}{\min S_{1;7}} + \frac{P_3}{\min P_{1;7}} = \frac{0.644}{0.1} + \frac{4.5}{1} = 10.942$$

$$K_{ic3} = \frac{\lambda(S_3) + \lambda(P_3)}{\left(\lambda \max S_{1;7} + (1-\lambda)\max P_{1;7}\right)} = \frac{\lambda(0.644) + \lambda(4.5)}{(\lambda(0.754) + (1-\lambda)4.71)} = 0.9440$$

$$K_{ia4} = \frac{S_4 + P_4}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.717 + 2.96}{24.49 + 2.36} = 0.1317$$

$$K_{ib4} = \frac{S_4}{\min S_{1;7}} + \frac{P_4}{\min P_{1;7}} = \frac{0.717}{0.1} + \frac{2.96}{1} = 10.1309$$

$$K_{ic4} = \frac{\lambda(S_4) + \lambda(P_4)}{\left(\lambda \max S_{1;7} + (1-\lambda)\max P_{1;7}\right)} = \frac{\lambda(0.717) + \lambda(2.96)}{(\lambda(0.754) + (1-\lambda)4.71)} = 0.6751$$

$$K_{ia5} = \frac{S_5 + P_5}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.313 + 3.37}{24.49 + 2.36} = 0.1317$$

$$K_{ib5} = \frac{S_5}{\min S_{1;7}} + \frac{P_5}{\min P_{1;7}} = \frac{0.313}{0.1} + \frac{3.37}{1} = 6.4959$$

$$K_{ic5} = \frac{\lambda(S_5) + \lambda(P_5)}{\left(\lambda \max S_{1;7} + (1-\lambda)\max P_{1;7}\right)} = \frac{\lambda(0.313) + \lambda(3.37)}{(\lambda(0.754) + (1-\lambda)4.71)} = 0.6752$$

$$K_{ia6} = \frac{S_6 + P_6}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.745 + 4.71}{24.49 + 2.36} = 0.1951$$

$$K_{ib6} = \frac{S_6}{\min S_{1;7}} + \frac{P_6}{\min P_{1;7}} = \frac{0.745}{0.1} + \frac{4.71}{1} = 12.1581$$

$$K_{ic6} = \frac{\lambda(S_6) + \lambda(P_6)}{\left(\lambda \max S_{1;7} + (1-\lambda)\max P_{1;7}\right)} = \frac{\lambda(0.745) + \lambda(4.71)}{(\lambda(0.754) + (1-\lambda)4.71)} = 1$$

$$K_{ia7} = \frac{S_7 + P_7}{\sum_{i=1}^{m}(S_{1;7} + P_{1;7})} = \frac{0.467 + 3.64}{24.49 + 2.36} = 0.1417$$

$$K_{ib7} = \frac{S_7}{\min S_{1;7}} + \frac{P_7}{\min P_{1;7}} = \frac{0.467}{0.1} + \frac{3.64}{1} = 8.3126$$

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$$K_{ic7} = \frac{\lambda(S_7) + \lambda(P_7)}{\left(\lambda \max S_{1;7} + (1-\lambda) \max P_{1;7}\right)} = \frac{\lambda(0.467) + \lambda(3.64)}{(\lambda(0.754) + (1-\lambda)4.71)} = 0.7541$$

The final stage in this combine compromise solution method is to calculate the total value of each alternative uses the following (8), the result of calculating the final value of the alternative is as follows.

$$K_1 = (K_{ia1} * K_{ib1} * K_{ic1})^{\frac{1}{3}} + \frac{1}{3}(K_{ia1} + K_{ib1} + K_{ic1})$$

$$K_1 = (0.0394 * 2 * 0.2018)^{\frac{1}{3}} + \frac{1}{3}(0.0394 + 2 + 0.2018)$$

$$K_1 = 0.2514 + 0.7470$$

$$K_1 = 0.9984$$

$$K_2 = (K_{ia2} * K_{ib2} * K_{ic2})^{\frac{1}{3}} + \frac{1}{3}(K_{ia2} + K_{ib2} + K_{ic2})$$

$$K_2 = (0.1708 * 9.0507 * 0.8756)^{\frac{1}{3}} + \frac{1}{3}(0.1708 + 9.0507 + 0.8756)$$

$$K_2 = 1.1062 + 3.3657$$

$$K_2 = 4.4719$$

$$K_3 = (K_{ia3} * K_{ib3} * K_{ic3})^{\frac{1}{3}} + \frac{1}{3}(K_{ia3} + K_{ib3} + K_{ic3})$$

$$K_3 = (0.1842 * 10.9420 * 0.9440)^{\frac{1}{3}} + \frac{1}{3}(0.1842 + 10.9420 + 0.9440)$$

$$K_3 = 1.2391 + 4.0234$$

$$K_3 = 5.2625$$

$$K_4 = (K_{ia4} * K_{ib4} * K_{ic4})^{\frac{1}{3}} + \frac{1}{3}(K_{ia4} + K_{ib4} + K_{ic4})$$

$$K_4 = (0.1317 * 10.1309 * 0.6751)^{\frac{1}{3}} + \frac{1}{3}(0.1317 + 10.1309 + 0.6751)$$

$$K_4 = 0.9658 + 3.6459$$

$$K_4 = 4.6117$$

$$K_5 = (K_{ia5} * K_{ib5} * K_{ic5})^{\frac{1}{3}} + \frac{1}{3}(K_{ia5} + K_{ib5} + K_{ic5})$$

$$K_5 = (0.1317 * 6.4959 * 0.6752)^{\frac{1}{3}} + \frac{1}{3}(0.1317 + 6.4959 + 0.6752)$$

$$K_5 = 0.8329 + 2.4343$$

$$K_5 = 3.2671$$

$$K_6 = (K_{ia6} * K_{ib6} * K_{ic6})^{\frac{1}{3}} + \frac{1}{3}(K_{ia6} + K_{ib6} + K_{ic6})$$

$$K_6 = (0.1951 * 12.1581 * 1)^{\frac{1}{3}} + \frac{1}{3}(0.1951 + 12.1581 + 1)$$

$$K_6 = 1.3336 + 4.4511$$

$$K_6 = 5.7847$$

$$K_7 = (K_{ia7} * K_{ib7} * K_{ic7})^{\frac{1}{3}} + \frac{1}{3}(K_{ia7} + K_{ib7} + K_{ic7})$$

$$K_7 = (0.1471 * 8.3126 * 0.7541)^{\frac{1}{3}} + \frac{1}{3}(0.1471 + 8.3126 + 0.7541)$$

$$K_7 = 0.9734 + 3.0713$$

$$K_7 = 4.0447$$

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The final value of each alternative is the final process of the combine compromise solution method, this result will be ranked for each existing alternative.

2.7 Recommendations for the Best Internship Students

Determining the best internship students using the combine compromise solution method emphasizes a holistic approach that combines various selection methods. The results of this assessment process provide a recommendation that results not only into consideration technical abilities and qualifications, but also aspects such as personality, motivation, and development potential. Through this approach, companies or institutions can ensure that the best interns make a significant contribution to the work environment, as well as provide opportunities for students to develop themselves professionally and academically. The results of ranking the best internship students using the combine compromise solution method as shown in table 3.

Table 3. Best Internship Students Ranking

Alternative Name	Final Value	Ranking
Jonathan	5.7847	1
Handoko R.	5.2625	2
M. Ali Fikri	4.6117	3
Ahmad Budiman	4.4719	4
Yulianto	4.0447	5
Kurniadi	3.2671	6
Suyanto	0.9984	7

The results of the ranking of the best internship students in table 3 show that rank 1st with a value of 5.7847 was obtained by Jonathan, rank 2nd with a value of 5.2625 was obtained by Handoko R, and rank 3rd with a value of 4.6117 was obtained by M. Ali Fikri. The results of this ranking help companies determine the best internship students by applying the combine compromise solution method.

4. CONCLUSION

The Best Internship Student Recommendation is the result of a comprehensive evaluation that considers various important factors, such as student performance, skills possessed, quality of work during the internship period, and ability to adapt to the work environment. By integrating these data, the best internship student recommendations can provide a clear view for the company or institution hosting the internship to select candidates that best suit their needs. These recommendations also have the potential to increase students' chances of gaining valuable work experience and building strong professional networks. The Decision Support System (DSS) to determine the best internship students using the Combined Compromise Solution Method provides a holistic approach in the selection process. This method combines elements of the Compromise Solution Method that consider compromise solutions between alternatives. With this comprehensive approach, DSS can assist institutions or companies in selecting internship students that best suit their needs and expectations, as well as ensure the success of internships that are beneficial to both parties. The results of the ranking of the best internship student alternatives showed that rank 1st with a value of 5.7847 was obtained by Jonathan, rank 2nd with a value of 5.2625 was obtained by Handoko R, and rank 3rd with a value of 4.6117 was obtained by M. Ali Fikri. The results of this ranking help companies determine the best internship students by applying the combine compromise solution method.

REFERENCES

[1] A. S. Gohae, "Pengalaman magang, minat kerja dan pengaruhnya terhadap kesiapan kerja mahasiswa akuntansi," *J. Ilm. Manajemen, Ekon. Akunt.*, vol. 4, no. 3, pp. 1954–1964, 2020.

[2] D. Aswita, "Merdeka belajar kampus merdeka (MBKM): inventarisasi mitra dalam pelaksanaan magang Mahasiswa fakultas keguruan dan ilmu pendidikan," in *Prosiding Seminar Nasional Biologi, Teknologi dan Kependidikan*, 2022, vol. 9, no. 2, pp. 56–61.

[3] J. D. Manik, A. R. Samosir, and M. Mesran, "Penerapan Metode Simple Additive Weighting dalam Penerimaan Siswa Magang Pada Universitas Budi Darma," *sudo J. Tek. Inform.*, vol. 1, no. 2, pp. 51–59, Jun. 2022, doi: 10.56211/sudo.v1i2.14.

[4] A. Paliling, "Penerapan Metode AHP Dalam Sistem Pendukung Keputusan Penempatan Mahasiswa Magang," *E-JURNAL JUSITI J. Sist. Inf. dan Teknol. Inf.*, vol. 11, no. 2, pp. 135–146, 2022, doi: 10.36774/jusiti.v11i2.1136.

[5] N. N. Sihombing, R. T. Aldisa, and Y. P. Simatupang, "Sistem Pendukung Keputusan Penilaian Kinerja Pada Siswa Magang dengan Metode Simple Additive Weighting (SAW)," *Bull. Comput. Sci. Res.*, vol. 4, no. 2, pp. 155–161, 2024, doi: 10.47065/bulletincsr.v4i2.331.

[6] R. H. Maharrani, A. R. Supriyono, and L. Syafirullah, "SIPGANG: Sistem Pendukung Keputusan Rekomendasi Magang Industri Berbasis Multi Attribute Utility Theory (MAUT)," *J. Edukasi dan Penelit. Inform.*, vol. 7, no. 3, p. 473, Dec. 2021, doi: 10.26418/jp.v7i3.49478.

[7] L. Sinambela and L. Nababan, "IMPLEMENTASI METODE TOPSIS DALAM PENERIMAAN MAHASISWA MAGANG PADA YAYASAN PERGURUAN IMMANUEL MEDAN," *JTIK (Jurnal Tek. Inform. Kaputama)*, vol. 7, no. 2, pp. 286–296, Jul. 2023, doi: 10.59697/jtik.v7i2.77.

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Volume 5, No 3, Desember 2023 Page: 607−618
ISSN 2684-8910 (media cetak)
ISSN 2685-3310 (media online)
DOI 10.47065/bits.v5i3.4231

[8] R. Rosati *et al.*, "From knowledge-based to big data analytic model: a novel IoT and machine learning based decision support system for predictive maintenance in Industry 4.0," *J. Intell. Manuf.*, vol. 34, no. 1, pp. 107–121, Jan. 2023, doi: 10.1007/s10845-022-01960-x.

[9] V. Zamani, H. Taghaddos, and Y. Gholipour, "Simulation-based decision support system for earthmoving operations using computer vision," *Eng. Appl. Artif. Intell.*, vol. 124, p. 106564, Sep. 2023, doi: 10.1016/j.engappai.2023.106564.

[10] A. Soussi, A. M. Tomasoni, E. Zero, and R. Sacile, "An ICT-Based Decision Support System (DSS) for the Safety Transport of Dangerous Goods along the Liguria and Tuscany Mediterranean Coast," in *Intelligent Sustainable Systems: Selected Papers of WorldS4 2022, Volume 2*, Springer, 2023, pp. 629–638. doi: 10.1007/978-981-19-7663-6_59.

[11] H. Sulistiani, Setiawansyah, P. Palupiningsih, F. Hamidy, P. L. Sari, and Y. Khairunnisa, "Employee Performance Evaluation Using Multi-Attribute Utility Theory (MAUT) with PIPRECIA-S Weighting: A Case Study in Education Institution," in *2023 International Conference on Informatics, Multimedia, Cyber and Informations System (ICIMCIS)*, 2023, pp. 369–373. doi: 10.1109/ICIMCIS60089.2023.10349017.

[12] Setiawansyah, A. A. Aldino, P. Palupiningsih, G. F. Laxmi, E. D. Mega, and I. Septiana, "Determining Best Graduates Using TOPSIS with Surrogate Weighting Procedures Approach," in *2023 International Conference on Networking, Electrical Engineering, Computer Science, and Technology (IConNECT)*, 2023, pp. 60–64. doi: 10.1109/IConNECT56593.2023.10327119.

[13] V. H. Saputra and T. Ardiansah, "Penerapan Combined Compromise Solution (CoCoSo) Method Dalam Sistem Pendukung Keputusan Pemilihan Modem," *J. Ilm. Comput. Sci.*, vol. 1, no. 1, pp. 7–16, 2022, doi: 10.58602/jics.v1i1.2.

[14] M. Yazdani, Z. Wen, H. Liao, A. Banaitis, and Z. Turskis, "A grey combined compromise solution (CoCoSo-G) method for supplier selection in construction management," 2019.

[15] Z. Wen, H. Liao, A. Mardani, and A. Al-Barakati, "A hesitant fuzzy linguistic combined compromise solution method for multiple criteria decision making," in *Proceedings of the Thirteenth International Conference on Management Science and Engineering Management: Volume 1 13*, 2020, pp. 813–821.

[16] Y. M. Kristania, "Penerapan Combined Compromise Solution Method Dalam Penentuan Penerima Beasiswa," *Chain J. Comput. Technol. Comput. Eng. Informatics*, vol. 1, no. 2, pp. 44–55, 2023.

[17] P. Rani, J. Ali, R. Krishankumar, A. R. Mishra, F. Cavallaro, and K. S. Ravichandran, "An integrated single-valued neutrosophic combined compromise solution methodology for renewable energy resource selection problem," *Energies*, vol. 14, no. 15, p. 4594, 2021.

[18] K.-H. Chang, "Integrating Subjective–Objective Weights Consideration and a Combined Compromise Solution Method for Handling Supplier Selection Issues," *Systems*, vol. 11, no. 2, p. 74, 2023.

[19] X. Peng and W. Li, "Spherical fuzzy decision making method based on combined compromise solution for IIoT industry evaluation," *Artif. Intell. Rev.*, pp. 1–30, 2022.

[20] F. Jahan, M. Soni, A. Parveen, and M. Waseem, "Application of combined compromise solution method for material selection," in *Advancement in Materials, Manufacturing and Energy Engineering, Vol. I: Select Proceedings of ICAMME 2021*, 2022, pp. 379–387.

[21] M. R. Ramadhan, M. K. Nizam, and M. Mesran, "Penerapan Metode SAW (Simple Additive Weighting) Dalam Pemilihan Siswa-Siswi Berprestasi Pada Sekolah SMK Swasta Mustafa," *TIN Terap. Inform. Nusant.*, vol. 1, no. 9, pp. 459–471, 2021.