

Implementation of the Simple Additive Weighting (SAW) Method in Selection of Students Recipients of Single Tuition Fee Assistance

Riki Sulistio¹, Ahmad Fahreza Nasution¹, Muhammad Tawaf Akbar^{1,*}, Rima Tamara Aldisa², Bister Purba³

¹ Fakultas Ilmu Komputer dan Teknologi Informasi, Prodi Teknik Informatika Universitas Budi Darma, Medan, Indonesia

² Fakultas Teknologi Komunikasi dan Informatika, Sistem Informasi, Universitas Nasional, Jakarta, Indonesia

³ Teknologi Rekayasa Multimedia Grafis (TRMG), Politeknik Negeri Medan, Medan, Indonesia

Email: ¹rikisulistio814@gmail.com, ¹fahrezanst@gmail.com, ^{1,*}muhammad4tawaf@gmail.com, ²rimatamaraa@gmail.com,

³bisterpurba91@gmail.com

Abstract—Higher education in Indonesia, including at Budi Darma University, continues to be committed to creating an inclusive and equitable learning environment for all students. In line with this determination, Budi Darma University is implementing the Single Tuition Assistance (BUKT) program to support educational accessibility. Obstacles in the selection process, which is subjective and lacks a structured framework, can lead to inequality in the distribution of aid. This can result in students who should receive greater support being overlooked, while those who may need less may receive greater aid. In the BUKT selection process, there are a number of requirements that must be met, such as parents' income, PKH card ownership, completeness of documents, parents' dependents and home ownership. It is hoped that the use of a decision support system can be a solution to overcome this challenge. Decision Support Systems (DSS) integrate computer technology, mathematical models, and data to provide structured and organized support within a decision-making framework. The Simple Additive Weighting (SAW) method is a multi-criteria decision making method that allows relative weighing between criteria to determine the final score for each alternative. By applying SAW in the selection of BUKT recipient students, it is hoped that more objective and data-based decisions can be obtained. The research results produced the best alternative with a value of 100.00 in the alternative with code A5 in Fitri's name, so that Fitri was declared entitled to receive single tuition assistance.

Keywords: Student Selection; MCDM; Single Tuition Fee; SAW Method; DSS

1. INTRODUCTION

Single Tuition Fee (UKT) is a mechanism used to finance student course payments at state universities under the Ministry of Research, Technology and Higher Education (Kemenristek Dikti). This system is different from the previous approach, where education costs include elements such as tuition fees, internship fees, fees for students (IOM), dissertation exam fees, graduation fees, quality improvement awards, Education (SPKP), and other factors. To improve educational standards, motivational aspects, especially in terms of operational budgeting, are very necessary. The cost of educational activities is an important supporting factor for improving the quality of education. Currently, state universities are developing new innovations by adopting the UKT classification system, with the aim of helping individuals from underprivileged communities to continue their education at tertiary level [1]–[5].

Higher education in Indonesia, including at Budi Darma University, continues to be serious in its efforts to create an inclusive and equitable learning environment for all students. In line with this commitment, Budi Darma University implements the Single Tuition Assistance (BUKT) program to support educational accessibility. BUKT has a crucial role in helping students carry out their academic journey smoothly, while reducing the burden of education costs. However, challenges arise when it is necessary to select BUKT recipient students fairly and efficiently. The subjective nature of the selection process and the lack of a structured framework can result in inequality in the distribution of aid. This can result in students who should receive greater support being overlooked, while those who may need less may receive more help. Although this assistance is provided to students at all universities, there are several criteria that can be used as a guide in the process of selecting BUKT recipients. In the BUKT selection process, there are requirements that must be met, including parents' income, ownership of a PKH card, completeness of documents, parents' dependents and home ownership. Universities face difficulties in selecting students who are worthy of this assistance because the number of applicants is very large, while the available quota is limited. Therefore, a solution is needed in the form of a decision support system to assist in selecting eligible BUKT recipient students. In the midst of increasingly stringent financial demands and an increase in the number of students requiring financial assistance, a more structured and objective approach is needed in determining recipients of Single Tuition Assistance (BUKT). It is hoped that the use of a decision support system can be a solution to overcome this challenge.

Decision Support System (DSS) is a term that refers to an information system created with the aim of helping individuals responsible for organizing, analyzing and assessing information that has relevance in a more optimal decision-making process. SPK integrates computer technology, mathematical models and data to provide structured and organized support within a decision-making framework [6]–[8]. SAW is a multi-criteria decision making method that allows relative weighing between criteria to determine the final score for each alternative [9]–[11]. By applying SAW in the selection of BUKT recipient students, it is hoped that more objective and data-based decisions can be obtained.

In Setyani and Sipayung's previous research in 2023, they examined the application of SAW in determining outstanding students, resulting in the ranking of students with the highest score being ranked first, namely alternative A2 with a score of 1 [12]. Research by Syabaniah et al in 2022 examined the application of the SAW method in selecting prospective tahfidz scholarship recipients resulting in 10 students who were entitled to receive scholarships due to obtaining high scores [13]. Research by Putra et al in 2022 examined the application of the SAW method in determining

BLT recipients to produce alternatives who were entitled to receive BLT based on the highest score obtained [14]. Research by Hulu et al in 2022 examined the application of SAW in determining the champion of a vocal group competition resulting in an alternative winner who obtained the highest score, namely 0.932[15].

Implementing the SAW Method into the selection mechanism for BUKT recipients at Budi Darma University, it is hoped that the quality of decision making will increase, reduce the level of subjectivity, and provide a more structured framework for assessing prospective BUKT recipients. The application of SAW is expected to produce more precise selection according to the criteria set by the university. In this way, the announcement of election results can be done more quickly, providing an opportunity for eligible students to immediately prepare to take part in lecture activities.

2. RESEARCH METHODOLOGY

2.1 Decision Support System

A decision support system (DSS) is an interactive computer system that helps decision makers solve unstructured problems through the use of data and various models. The integration of individual intellectual resources with computer capabilities makes SPK a tool capable of improving the quality of decision making. DSS plays a role as a support for decision makers in dealing with the complexity and uncertainty of information that is often involved in business or organizational decisions. Through SPK assistance, the efficiency and effectiveness of the decision-making process can be improved by providing more timely, accurate and detailed information[16]–[23].

2.2 Single Tuition Fee Assistance

Single Tuition Fee (UKT) is an educational fee structure implemented in higher education institutions in Indonesia, especially in state institutions. UKT was introduced with the aim of integrating and simplifying various previously separate elements of education costs into one single unit. This system is designed to provide clarity and fairness in determining educational costs for students, while also trying to accommodate various economic conditions among students. The fundamental principle of UKT involves grouping different fee amounts for each student based on their family's economic capacity [24]–[26].

2.3 Metode Simple Additive Weighting (SAW)

The Simple Additive Weighting (SAW) method is a technique in decision support systems that is used to carry out evaluations and selections based on a number of relevant criteria. In SAW, various criteria are used to provide assessments with appropriate relative weights or values for each criterion. Generally, SAW is used in situations where we need to choose between alternatives or objects based on a number of predefined criteria[27]–[33]. The following are steps to solve problems with SAW [34]–[36]:

1. Determine the criteria that will be used as a reference in making decisions (C_j), and give a weight to each criterion in terms of linguistic variables.
2. Provide a suitable rating/level of importance for each criterion (W).
3. Normalize the decision matrix.

$$r_{ij}^* = \begin{cases} \frac{x_{ij}}{\max_i x_{ij}} \\ \frac{\min_i x_{ij}}{x_{ij}} \end{cases} \quad (1)$$

4. The final result V_i obtained from the ranking of the normalized sum R multiplying the matrix with weights (W) to get the largest value is the best alternative (A_i).

$$V_i = \sum_{j=1}^n W_j r_{ij} \quad (2)$$

2.4 Research Stages

Several studies of decision support systems using simple weighting (SAW) related to this study have been widely described. After conducting research to find the weight of each characteristic, a ranking process is carried out to determine the best alternative, namely the best student. After analysis, design, implementation and testing, the following conclusions can be drawn:

1. Identify the Problem
In this stage, analyze existing problems for values and criteria that influence utility values.
2. Literature Review
In this stage, data collection is carried out to look for material related to the case from many sources, both from the internet and available books.
3. Analysis and application of the SAW method
At this stage, several data are processed by applying the SAW method to determine recipients of tuition assistance, as well as formulating problems and resolving cases.
4. Write a research report

In this step, the work plan that has been completed in making the report is evaluated.

3. RESULT AND DISCUSSION

Challenges arise in selecting students who receive UKT assistance fairly and efficiently. The selection process tends to be subjective and the lack of a structured framework can result in inequality in the distribution of aid. The impact is the potential neglect of students who should receive greater support, while students who may need less support may receive greater allocations. The following are the criteria used as guidelines in determining students who are entitled to receive UKT assistance:

Table 1. Criteria Data

Criterion	Description	Type	Weight
C ₁	Parental Income	Cost	30
C ₂	PKH Card Ownership	Benefit	20
C ₃	File Completeness	Benefit	15
C ₄	Number of Dependents Parental	Benefit	25
C ₅	Home ownership	Cost	10

The following is data on prospective students receiving single tuition assistance which can be seen in Table 2 below.

Table 2. Data on prospective UKT recipients

Code	Alternative	C ₁	C ₂	C ₃	C ₄	C ₅
A ₁	Aura	Rp. 4.000.000	Not available	Incomplete	5 Person	Personal
A ₂	Fahmi	Rp. 3.500.000	Not available	Complete	4 Person	Rent
A ₃	Ulfa	Rp. 2.500.000	Available	Complete	3 Person	Personal
A ₄	Bintang	Rp. 3.000.000	Available	Complete	4 Person	Rent
A ₅	Fitri	Rp. 2.000.000	Available	Complete	5 Person	Rent

In Table 2 there is still linguistic data, so a weighting table for C₂, C₃ and C₅ is needed as follows:

Table 3. Weighting C2

Description	Value
Not available	10
Available	5

Table 4. Weighting C3

Description	Value
Complete	10
Incomplete	5

Table 5. Weighting C5

Description	Value
Personal	10
Rent	5

3.1 Implementation of SAW Method

In selecting students who receive UKT assistance fairly and efficiently, the SAW method is applied using the following steps.

1. Decision Matrix

Based on data from prospective students who receive single tuition assistance after weighting, the following matrix values are obtained.

Table 6. Match Rating Data Matrix

Alternative	C ₁	C ₂	C ₃	C ₄	C ₅
A ₁	4000000	5	5	5	10
A ₂	3500000	5	10	4	5
A ₃	2500000	10	10	3	10
A ₄	3000000	10	10	4	5
A ₅	2000000	10	10	5	5
MAX	4000000	10	10	5	10
MIN	2000000	5	5	3	5

2. Normalized Matrix

C1 (Cost)

$$r_{11} = \frac{2000000}{4000000} = 0.50$$

$$r_{21} = \frac{2000000}{3500000} = 0.57$$

$$r_{31} = \frac{2500000}{2000000} = 0.80$$

$$r_{41} = \frac{3000000}{2000000} = 0.67$$

$$r_{51} = \frac{2000000}{2000000} = 1.00$$

C2 (Benefit)

$$r_{12} = \frac{5}{10} = 0.50$$

$$r_{22} = \frac{10}{10} = 0.50$$

$$r_{32} = \frac{10}{10} = 1.00$$

$$r_{42} = \frac{10}{10} = 1.00$$

$$r_{52} = \frac{10}{10} = 1.00$$

C3 (Benefit)

$$r_{13} = \frac{5}{10} = 0.50$$

$$r_{23} = \frac{10}{10} = 1.00$$

$$r_{33} = \frac{10}{10} = 1.00$$

$$r_{43} = \frac{10}{10} = 1.00$$

$$r_{53} = \frac{10}{10} = 1.00$$

C4 (Benefit)

$$r_{14} = \frac{5}{3} = 1.00$$

$$r_{24} = \frac{4}{3} = 0.80$$

$$r_{34} = \frac{3}{3} = 0.60$$

$$r_{44} = \frac{4}{3} = 0.80$$

$$r_{54} = \frac{5}{3} = 1.00$$

C5 (Cost)

$$r_{15} = \frac{5}{10} = 0.50$$

$$r_{25} = \frac{5}{5} = 1.00$$

$$r_{35} = \frac{5}{10} = 0.50$$

$$r_{45} = \frac{5}{5} = 1.00$$

$$r_{55} = \frac{5}{5} = 1.00$$

After carrying out the calculation process to obtain the normalized matrix as follows.

Table 7. Normalized Matrix (R)

Alternative	C ₁	C ₂	C ₃	C ₄	C ₅
A ₁	0.50	0.50	0.50	1.00	0.50
A ₂	0.57	0.50	1.00	0.80	1.00
A ₃	0.80	1.00	1.00	0.60	0.50
A ₄	0.67	1.00	1.00	0.80	1.00
A ₅	1.00	1.00	1.00	1.00	1.00

3. Preference Value

$$V1 = \sum(30 * 0.50 + 20 * 0.50 + 15 * 0.50 + 25 * 1.00 + 10 * 0.50) = 62.50$$

$$V2 = \sum(30 * 0.57 + 20 * 0.50 + 15 * 1.00 + 25 * 0.80 + 10 * 1.00) = 72.14$$

$$V3 = \sum(30 * 0.80 + 20 * 1.00 + 15 * 1.00 + 25 * 0.60 + 10 * 0.50) = 79.00$$

$$V4 = \sum(30 * 0.67 + 20 * 1.00 + 15 * 1.00 + 25 * 0.80 + 10 * 1.00) = 85.00$$

$$V5 = \sum(30 * 0.50 + 20 * 0.50 + 15 * 0.50 + 25 * 1.00 + 10 * 0.50) = 62.50$$

After carrying out the calculation process to obtain the final result of the preference value as follows.

Table 8. Preference Value

Alternative	Vi Value	Rank
A ₁	62.50	5
A ₂	72.14	4
A ₃	79.00	3
A ₄	85.00	2
A ₅	100.00	1

Based on Table 8, alternative 5 (A5) is the best alternative choice as a student who is entitled to receive single tuition assistance, namely Fitri with a value of 100.0.

4. CONCLUSION

From the research results, it can be concluded that the aid selection system with the support of a Decision Support System (SPK) has the capacity to store, edit and delete data on applicants and recipients of Single Tuition Fee (UKT) aid. Selection of scholarship recipients is carried out by providing recommendations through a ranking model created by applying a simple weighting method using Simple Additive Weighting (SAW) in the system. In the BUKT selection process, there are a number of requirements that must be met, such as parents' income, PKH card ownership, completeness of documents, parents' dependents and home ownership. It is hoped that the use of a decision support system can be a solution to overcome this challenge. By applying SAW in the selection of UKT recipient students, it is hoped that more objective and data-based decisions can be obtained. The results of the research produced the best alternative with a value of 100.0 in the alternative with code A5 in the name of Fitri, so that Fitri was declared entitled to receive single tuition assistance.

REFERENCES

- [1] S. N. Millenni and M. Mayarni, "Efektivitas Penyelenggaraan Program Refund Uang Kuliah Tunggal (Ukt) 50% Selama Pandemi Covid-19 Di Universitas Riau," *J. Res. Dev. Public Policy*, vol. 2, no. 1, pp. 107–112, 2023.
- [2] M. Ardiansyah, T. Suharto, and A. S. Farid, "Upaya Penanganan Uang Kuliah Tunggal (UKT) Bermasalah bagi Mahasiswa yang tidak Mampu pada Perguruan Tinggi," *JHIP-Jurnal Ilm. Ilmu Pendidik.*, vol. 5, no. 10, pp. 4432–4441, 2022.
- [3] M. R. Kusnaldi, T. Gulo, and S. Aripin, "Penerapan Normalisasi Data Dalam Mengelompokkan Data Mahasiswa Dengan Menggunakan Metode K-Means Untuk Menentukan Prioritas Bantuan Uang Kuliah Tunggal," *J. Comput. Syst. Informatics*, vol. 3, no. 4, pp. 330–338, 2022.
- [4] R. Susetyoko, W. Yuwono, E. Purwantini, and N. Ramadijanti, "Perbandingan Metode Random Forest, Regresi Logistik, Naïve Bayes, dan Multilayer Perceptron Pada Klasifikasi Uang Kuliah Tunggal (UKT)," *J. Infomedia Tek. Inform. Multimed. Jar.*, vol. 7, no. 1, pp. 8–16, 2022.
- [5] N. Husna, H. Husaini, and S. Achmady, "SISTEM PENDUKUNG KEPUTUSAN SELEKSI PEMBERIAN UANG KULIAH TUNGGAL (UKT) MENGGUNAKAN METODE WASPAS DI PTI-ALHILAL SIGLI BERBASIS WEB," *J. Real Ris.*, vol. 5, no. 1, pp. 192–196, 2023.
- [6] R. T. Aldisa, "Penerapan Metode MABAC dalam Sistem Pendukung Keputusan Rekomendasi Aplikasi Pemesanan Hotel Terbaik," *J. Inf. Syst. Res.*, vol. 4, no. 1, pp. 191–201, 2022.
- [7] A. Iskandar, "Penyeleksian Penerimaan Teleservice Representative dengan Penerapan Metode ARAS dan Pembobotan ROC," *JURIKOM (Jurnal Ris. Komputer)*, vol. 10, no. 2, pp. 548–557, 2023.
- [8] M. A. Abdullah and R. T. Aldisa, "Perbandingan Metode Preference Selection Index dan Kombinasi Preference Selection Index dan TOPSIS dalam Penilaian Kinerja Karyawan Hotel," *KLIK Kaji. Ilm. Inform. dan Komput.*, vol. 3, no. 6, pp. 1080–1087, 2023.
- [9] P. D. Syahfitri, H. Saputra, and W. M. Kifti, "SISTEM PENDUKUNG KEPUTUSAN PENENTUAN PENERIMA BEASISWA BAZNAS KABUPATEN ASAHAN DENGAN METODE SAW," *JUTSI (Jurnal Teknol. dan Sist. Informasi)*, vol. 3, no. 2, pp. 97–106, 2023.
- [10] A. E. Syaputra, "Implementasi Metode SAW dalam Menunjang Pengambilan Keputusan Penerimaan Tenaga Kependidikan Baru," *E-JURNAL JUSITI J. Sist. Inf. dan Teknol. Inf.*, vol. 12, no. 1, pp. 65–76, 2023.
- [11] W. Pratama and D. Pibriana, "Sistem Pendukung Keputusan Penilaian Sales PT Capella Patria Utama Menggunakan Metode SAW," in *MDP Student Conference*, 2023, vol. 2, no. 1, pp. 519–525.
- [12] I. A. Setyani and Y. R. Sipayung, "Sistem Pendukung Keputusan Menentukan Siswa Berprestasi dengan Metode SAW (Simple Additive Weighting)," *J. Sist. Komput. dan Inform.*, vol. 4, no. 4, pp. 632–641, 2023.
- [13] R. N. S. Syifa, A. Wibowo, E. Marsusanti, N. Purwati, and R. Riniawati, "Sistem Pendukung Keputusan Pemilihan Calon Penerima Beasiswa Tahfidz Menggunakan Metode SAW," *J. Teknol. DAN ILMU Komput. PRIMA*, vol. 5, no. 1, pp. 19–26, 2022.
- [14] P. P. Putra *et al.*, "Sistem Pendukung Keputusan Penentuan Penerima BLT Menggunakan Metode SAW," *J. Teknol. Dan Sist. Inf. Bisnis*, vol. 4, no. 2, pp. 285–293, 2022.
- [15] A. A. Hulu, M. Mesran, and J. H. Lubis, "Penerapan Metode SAW (Simple Additive Weighting) Dalam Menentukan Juara Perlombaan Vocal Group," *TIN Terap. Inform. Nusant.*, vol. 2, no. 11, pp. 657–662, 2022.
- [16] D. P. Indini and A. Triayudi, "Penerapan Sistem Pendukung Keputusan dalam Penentuan Alat Bantu Media Pembelajaran Fisika Terbaik Menggunakan Metode PSI," vol. 4, no. 4, pp. 861–871, 2023.
- [17] Mesran and D. P. Indini, "Analisis Dalam Pendukung Keputusan Seleksi Content Creator Mahasiswa Terbaik Menerapkan Metode EDAS dan ROC," *J. Comput. Syst. Informatics*, vol. 4, no. 4, pp. 912–921, 2023.
- [18] S. Hutagalung, D. S. Gea, D. P. Indini, and Mesran, "Penerapan Metode MOORA Dalam Pemilihan Bimbingan Belajar Terbaik,"

- J. Informatics Manag. Inf. Technol.*, vol. 3, no. 1, pp. 1–7, 2023.
- [19] F. Mahdi, Faisal, D. P. Indini, and Mesran, “Penerapan Metode WASPAS dan ROC (Rank Order Centroid) dalam Pengangkatan Karyawan Kontrak,” *Bull. Comput. Sci. Res.*, vol. 3, no. 2, pp. 197–202, 2023.
- [20] D. P. Indini, K. Khairunnisa, N. D. Puspa, T. A. Siregar, and M. Mesran, “Penerapan Metode OCRA dalam Menentukan Media Pembelajaran Online Terbaik di Masa Pandemi Covid-19 dengan Pembobotan ROC,” *J. Sist. Komput. dan Inform.*, vol. 3, no. 2, pp. 60–66, 2021.
- [21] T. Limbong *et al.*, *Sistem Pendukung Keputusan: Metode & Implementasi*. Medan: Yayasan Kita Menulis, 2020.
- [22] Setiawansyah, V. P. Sabandar, Mesran, A. T. Priandika, and A. Rusahman, *Buku Referensi: Multiple-Criteria Decision Making dan Pivot Pairwise Relative Criteria Importance Assessment Sebagai Solusi Pengambilan Keputusan*. 2024.
- [23] Sarwandi *et al.*, *Sistem Pendukung Keputusan*, 1st ed. Medan: CV Graha Mitra Edukasi, 2023.
- [24] R. T. Aldisa, A. Priyatna, F. Saidah, K. Y. Siahaan, and M. Mesran, “Analisis Perbandingan Penerapan Metode MOORA dan SAW dalam Kelayakan Pemberian Bantuan Uang Kuliah Tunggal,” *J. Sist. Komput. dan Inform.*, vol. 3, no. 4, pp. 393–404, 2022.
- [25] T. H. B. Aviani and A. T. Hidayat, “Sistem Pendukung Keputusan Seleksi Pemberian Uang Kuliah Tunggal Menerapkan Metode WASPAS,” *J. Sist. Komput. dan Inform.*, vol. 2, no. 1, pp. 102–109, 2020.
- [26] R. M. Firzatullah, “Menggunakan Sistem Pendukung Keputusan Penentuan Uang Kuliah Tunggal Universitas XYZ Menggunakan Algoritma Backpropagation,” 2021.
- [27] J. Rahmadian, J. Fajaryanti, and R. Rogayah, “IMPLEMENTATION OF THE SIMPLE ADDITIVE WEIGHTING (SAW) METHOD FOR SELECTION OF SALESPERSON,” *J. Teknoinfo*, vol. 17, no. 1, pp. 228–235, 2023.
- [28] W. LESTARI, “IMPLEMENTATION OF THE SIMPLE ADDITIVE WEIGHTING (SAW) METHOD IN SUPPORTING PNS POSITION PROMOTION DECISIONS (CASE STUDY: WERU DISTRICT OFFICE, SUKOHARJO REGENCY, CENTRAL JAVA).” University of Technology Yogyakarta, 2022.
- [29] A. Diana and M. A. P. Kurniawan, “Decision Support System For Selection Of Internet Service Provider (ISP) With Analytical Hierarchy Process (AHP) And Simple Additive Weighting (SAW) Methods: Sistem Pendukung Keputusan Pemilihan Penyedia Layanan Internet (ISP) Dengan Metode Analytical Hierarchy Process (AHP) Dan Simple Additive Weighting (SAW),” *SYSTEMATICS*, vol. 4, no. 2, pp. 421–439, 2022.
- [30] D. Ramadaniah, K. S. Nurjannah, M. R. Romahdoni, and J. Andrew, “Development Of Decision Support System Application For Admission Of New Students And Determination Of Major Using Simple Additive Weighting (SAW),” *Asia Inf. Syst. J.*, vol. 1, no. 2, 2022.
- [31] M. N. D. Satria, “Application of SAW in the Class Leader Selection Decision Support System,” *Chain J. Comput. Technol. Comput. Eng. Informatics*, vol. 1, no. 1, pp. 27–31, 2023.
- [32] M. R. Hamdan, A. Triayudi, and A. Iskandar, “Komparasi Metode Simple Additive Weighting dan Weight Product Menggunakan Sistem Pendukung Keputusan pada Penerimaan BLT,” *JURIKOM (Jurnal Ris. Komputer)*, vol. 9, no. 5, pp. 1543–1550, 2022.
- [33] M. R. Ramadhan, M. K. Nizam, and 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.
- [34] M. Minarni, A. Purwanto, R. A. Saputra, and N. Herlambang, “Implementasi Metode SAW Dalam Pemilihan Tempat Wisata di Kabupaten Kotawaringin Timur,” *Progresif J. Ilm. Komput.*, vol. 19, no. 1, pp. 401–410, 2023.
- [35] C. A. Gemawaty and Y. Yuliani, “Pemilihan Dosen Terbaik dengan Metode SAW (Simple Additive Weighting),” *JISAMAR (Journal Inf. Syst. Applied, Manag. Account. Res.)*, vol. 7, no. 3, pp. 711–717, 2023.
- [36] A. Lisdiyanto, “Sistem Penilaian Kinerja Tridharma Dosen Menggunakan SAW,” *J. Teknol. Dan Sist. Inf. Bisnis*, vol. 5, no. 1, pp. 69–72, 2023.