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Determination of Website-Based Educational Assistance Recipients Using the Profile Matching Method at State Elementary School 9 Benteng

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Abstract

The development of information technology has brought about a major transformation in the field of education, particularly in the management of academic data and school administration. The process of determining educational assistance recipients at State Elementary School 09 Benteng is still done manually, thus potentially causing subjectivity. The absence of a website-based decision support system results in a less efficient selection process, suboptimal assessment results, and unstructured recipient criteria management. In addition, through the main discussion in this study aims to be able to design a website-based decision support system using the Profile Matching method to determine educational assistance recipients at State Elementary School 09 Benteng. This system is expected to support a more objective, structured and targeted selection process based on predetermined criteria. And in addition, the Research Method section used in this study is a descriptive quantitative approach. This method was chosen because the main objective of the study is not only to analyze a phenomenon, but also to design, develop, implement and test a website-based decision support system with the profile matching method. Based on the overall description in this study, the author can conclude that the website-based Decision Support System (DSS) for determining educational assistance recipients at State Elementary School 09 Benteng was successfully developed using the Profile Matching method to produce a more objective, structured and transparent selection process. This system replaces the previous, subjective manual method with a systematic assessment process, starting from determining criteria, weighting, calculating gap scores, and finally ranking. The results of data processing on 20 students showed that Maulana Malikul Ashori Putra obtained the highest score of 4,598 (rank 1), followed by Raka Dwi Kapo with the same score of 4,598 (rank 2) and Alfatin Rahma with a score of 4,540 (rank 3).

Keywords:
Utilization of Profile Matching Method; Determination of Educational Assistance; Selection of Recipient Students; State Elementary School 09 Benteng, Website-Based Decision-Making System.

1. INTRODUCTION

The development of information technology has brought about a major transformation in the field of education, particularly in the management of academic data and school administration. The use of digital technology enables faster, more accurate, and more transparent data processing, thus supporting objective and targeted decision-making. In the context of modern education, technology plays a role not only as a learning tool but also as a school management tool, including in the management and distribution of educational assistance funds (Helmawati, 2023). At the elementary school level, family economic constraints are often a major obstacle for students in meeting their educational needs. Parents' inability to provide school

supplies, supporting costs, and learning facilities can impact student motivation and achievement. This situation demands an active role from schools and the government in providing targeted educational assistance (Azizah et al., 2021).

Educational assistance is provided as a form of support so that students can continue to optimally participate in the learning process. However, determining educational assistance recipients is not a simple matter because it involves many criteria that must be considered, such as family economic conditions, academic achievement, attendance, and student behavior. If not managed properly, this process has the potential to lead to injustice and errors in aid distribution (Reynalda et al., 2021). The profile matching method is a method often used in decision-making mechanisms, assuming that the subjects studied must meet or exceed the ideal level of predictor variables rather than the minimum level that must be met or exceeded. In education, decision support systems can be used to assist administrators in carrying out their duties. The profile matching method has been used to determine educational assistance. Profile matching has been used to select potential recipients of educational assistance (Program et al., 2024).

In general, the selection process for educational assistance recipients in elementary schools is still done manually. Assessments are often based solely on subjective observations of teachers or school administrators and administrative requirements. This method is susceptible to bias and fails to provide a comprehensive and objective picture of student outcomes (Wardana et al., 2023).

Benteng 9 Public Elementary School is a primary school that provides formal education and distributes educational assistance to students in need. This educational assistance aims to support the continuity of student learning, especially for students from low-income families. However, in its implementation, the school still faces various challenges in determining recipients of educational assistance. Frequent problems include the use of incompletely updated student data, subjective assessments, and the lack of a system capable of processing and comparing student criteria in a structured manner. This situation results in inaccurate targeting of aid recipients, the potential for inequality between students, and the reduced effectiveness of the educational assistance program distributed by the school (Tarmon, R. I., et al., 2025).

In this study, one of the methods frequently used in SPK is the Profile Matching method. This method works by comparing the actual profile of the object being assessed with a previously determined ideal profile. The difference between the actual and ideal profiles (gap) is used as the basis for assessing the suitability level of an alternative (Rahman et al., 2023). Various previous studies have shown that the Profile Matching method is effective in determining scholarship and educational assistance recipients, concluding that Profile Matching can increase the objectivity of scholarship recipient selection compared to manual methods because it is based on measurable mathematical calculations (Zuqron et al., 2025).

In addition, this study aims to design and implement a Decision Support System (DSS) for determining educational assistance recipients at SD Negeri 09 Benteng using the Profile Matching method (Ringga & Utami, 2023). Through the application of this method, it is hoped that it will be able to help the selection process for educational assistance recipients in a more objective, systematic and structured manner through a comparison between the profiles of prospective recipients with predetermined criteria. In addition, this study was also conducted to be able to evaluate the level of effectiveness of the Profile Matching method in producing accurate and targeted decisions, so that educational assistance can be provided to students who truly meet the requirements and need educational support according to existing conditions (Wedo et al., 2025).

Based on these problems, the application of the Profile Matching method in determining educational assistance at SD N 9 Benteng is very relevant to be carried out. This research is expected to produce an objective, transparent and accurate decision support system in determining recipients of educational assistance, thereby helping schools in increasing fairness and effectiveness in distributing assistance to students who really need it, the author is interested in raising the title of the thesis: "Determination of Educational Assistance Based on Profile Matching at State Elementary School 9 Benteng". This research is expected to help schools in making decisions more fairly, systematically and transparently, especially when having to consider various complex criteria (Silviana, 2024).

2. RESEARCH METHOD

The research methods section outlines the stages used as guidelines for conducting the research to ensure that the stated objectives can be achieved systematically and effectively. This research uses research methods to identify problems encountered in the selection process for educational assistance recipients, collect relevant data, and design solutions that support more objective and accurate decision-making. Through a structured research approach, each stage is carried out, from data collection and system requirements analysis to determining assessment criteria and weighting, to applying the Profile Matching method as the basis for determining the eligibility level of prospective educational assistance recipients. (Budiarti et al., 2026). And based on this, the research framework used in this study includes the following description and explanation.

2.1. Identifying the Problem

Problem Identification is a crucial stage in the research process. At this stage, researchers discovered that the selection of educational assistance recipients at State Elementary School 09 Benteng is currently facing various obstacles that affect the effectiveness and accuracy of decision-making. The manual selection process tends to be subjective, potentially leading to inaccurate targeting and a lack of transparency in determining eligible students. Furthermore, the lack of a decision support system capable of integrated data processing results in a relatively lengthy selection process and suboptimal decision-making outcomes. This situation is further complicated by the lack of systematic management of assessment criteria, increasing the risk of errors in the evaluation and determination of potential educational assistance recipients. Therefore, a mechanism is needed that can manage data and criteria in a structured manner so that the process of determining aid recipients can be carried out more objectively, quickly, accurately, and on target (Lusiana & Aryanti, 2025).

2.2. The Population

The population in this study was all students who were potential recipients of educational assistance based on administrative data held by the school. Given the relatively large population, this study used a purposive sampling technique, which is a sampling technique based on certain criteria tailored to the research objectives. Through this technique, 20 students were selected as the research sample because they met the requirements needed in the evaluation process, such as having complete data on family economic conditions, academic achievement, parent or guardian employment status, number of dependents, attendance rate, behavior and discipline, and history of ownership of other assistance. The sampling process was carried out by first verifying the completeness and suitability of each student's data, then selecting students who represent various economic conditions and different characteristics so that the Profile Matching method testing process could be carried out optimally. The sample consisted of alternatives A1 to A20, which were then used as the object of calculation in the decision support system (Ariffiani et al., 2023).

2.3. Data Collection Technique

The data collection techniques in this study were conducted systematically to obtain accurate, complete, and relevant information. The first stage was conducted through observation, namely by directly observing the process of determining educational assistance recipients currently implemented in schools. Through observation, researchers obtained an overview of the selection process, assessment mechanisms, and various obstacles encountered, such as the process being carried out manually and the lack of a system capable of supporting objective decision-making. The next stage was interviews with the principal, teachers, and parties responsible for the distribution of educational assistance. Interviews were conducted to obtain information regarding school policies, the determination of assessment criteria, and the selection procedures used to determine students who are eligible to receive assistance. In addition, researchers also conducted a documentation study by collecting school administrative data related to prospective educational assistance recipients. The data obtained were then compiled into research data consisting of 20 alternative students (A1–A20) along with seven assessment criteria: Family Economic Condition, Student Academic Achievement, Parent/Guardian Employment Status, Student Attendance, Number of Family Dependents, Student Behavior and Discipline, and Ownership of Other Assistance. All of this data comes from official school documents, such as student identity data, academic grades, attendance data, disciplinary records, parental employment information, family economic conditions, and history of previous aid receipts (Retno & Hasdyna, 2022).

2.4. Research Data Set

The research dataset used in this study consists of 20 student data that serve as alternatives in the selection process for educational assistance recipients. The data were obtained based on various criteria deemed relevant in describing the level of student eligibility to receive assistance, namely family economic conditions, student academic achievement, parent or guardian employment status, student attendance rate, number of family dependents, student behavior and discipline, and ownership of other assistance previously received. Each student has different characteristics and conditions, ranging from the category of very poor to capable, with variations in academic achievement, number of family dependents, and history of receiving assistance. This diversity of data provides a real picture of the condition of prospective assistance recipients so that the assessment process can be carried out more comprehensively (Makmun, Z. A., & Taryo, T., 2025).

Table 1. Raw Data for Determining Student Recipients of Assistance

No	Student Name	Family Economic Condition	Parent/Guardian Employment Status	Number of Family Dependents	Student Academic Achievement	Student Attendance	Student Behavior and Discipline	Ownership of Other Assistance
1	Rahul Khan	Quite Capable	81–90	Daily Laborer	96–100%	4 People	Good	Ever 2 Assistance
2	Sukma Nazira	Unable	91–100	Daily Laborer	96–100%	3 People	Very good	Ever 1 Help
3	Nadhira Almaira	Capable	71–80	Self-employed	91–95%	≥5 People	Enough	Ever 3 Assistance
4	Prophet Ar-Rahman	Very Poor	81–90	Doesn't work	96–100%	4 People	Good	Never Received
5	Altafih Rahman	Quite Capable	61–70	Daily Laborer	81–85%	3 People	Enough	Ever 3 Assistance
6	MHD. Rozi	Unable	71–80	Daily Laborer	91–95%	2 persons	Good	Ever 2 Assistance
7	Aswinda Luftia Zahra	Capable	91–100	Self-employed	96–100%	≥5 People	Very good	Ever 3 Assistance
8	Lala Anggraini	Quite Capable	81–90	Daily Laborer	91–95%	3 People	Good	Ever 2 Assistance
9	Dimas	Very Poor	61–70	Doesn't work	81–85%	4 People	Not enough	Never Received
10	Rizki	Unable	71–80	Daily Laborer	91–95%	2 persons	Enough	Ever 1 Help
11	Nadhifah Sakinah	Capable	91–100	Self-employed	96–100%	≥5 People	Very good	Ever 3 Assistance
12	Raka Dwi Kano	Quite Capable	71–80	Daily Laborer	91–95%	3 People	Enough	Ever 2 Assistance
13	Rismayanti Simanullang	Unable	81–90	Daily Laborer	96–100%	4 People	Good	Ever 1 Help
14	Sofiah Rahmah	Capable	81–90	Self-employed	96–100%	≥5 People	Very good	Ever 3 Assistance
15	Muhammad Kodori	Very Poor	61–70	Doesn't work	81–85%	4 People	Not enough	Never Received
16	Maulana Malikul	Quite Capable	71–80	Daily Laborer	91–95%	3 People	Enough	Ever 2 Assistance
17	Dinil Khoirul	Unable	81–90	Daily Laborer	96–100%	2 persons	Good	Ever 1 Help
18	Muhammad Danish	Quite Capable	91–100	Daily Laborer	96–100%	3 People	Very good	Ever 2 Assistance
19	Arimbi Star	Capable	81–90	Self-employed	91–95%	≥5 People	Good	Ever 3 Assistance
A20	Rifki Anwar	Very Poor	71–80	Doesn't work	91–95%	4 People	Enough	Never Received

2.5. Data Validity and Reliability

The validity and reliability of the data in this study are crucial to ensuring that the data used can produce accurate, consistent, and accountable decisions. Data validity was achieved by verifying the suitability of information for each prospective aid recipient through school administrative documents, academic data, and confirmation with homeroom teachers and those responsible for the educational assistance program. This process ensured that the data for the 20 alternative students reflected the actual situation, including family economic conditions, academic achievement, parent or guardian employment status, number of dependents, student attendance, behavior and discipline, and history of other aid ownership. Data reliability was maintained by applying the same data collection, scoring, and processing procedures to all alternatives based on the assessment scale established in the Profile Matching method. All data was converted into numerical values using uniform rules to ensure there was no differential treatment between students during the calculation process. Furthermore, each stage, from the formation of the ideal profile, gap calculation, value weighting, Core Factor and Secondary Factor calculations, to the ranking process, was conducted systematically and used the same formula for all alternatives. (Christina et al., 2023).

2.6. Research Variables

The research variables in this study are the factors used as the basis for assessment in determining a student's eligibility for educational assistance. These variables consist of seven main criteria: Family Economic Condition, Student Academic Achievement, Parent/Guardian Employment Status, Student Attendance, Number of Family Dependents, Student Behavior and Discipline, and Ownership of Other Assistance. These seven variables were chosen because they can represent the overall economic, social, and academic conditions of students. Family economic condition and parental employment status are used to measure the family's financial capacity, while the number of family dependents indicates the magnitude of the economic burden that must be borne. Academic achievement, attendance, and student behavior and discipline are used to assess students' commitment and quality of learning at school. Meanwhile, the variable of ownership of other assistance serves to determine the history of previous assistance receipts (Yurista & Kharisma, 2022).

2.7. Data Analysis Techniques

The data analysis technique in this study was carried out by processing data on prospective educational assistance recipients using the Profile Matching method to produce objective and targeted decisions. The analysis begins by identifying the criteria used in the assessment, namely family economic conditions, student academic achievement, parent or guardian employment status, student attendance rate, number of family dependents, student behavior and discipline, and ownership of other assistance. Next, each criterion is given a score based on a predetermined scale and compared with the ideal profile of educational assistance recipients. The next process is to calculate the gap value between the student profile and the ideal profile, then convert it into a value weight according to the provisions of the Profile Matching method. After that, the Core Factor and Secondary Factor values are calculated to obtain the total score for each student. The results of these calculations are used to rank all alternatives, thus obtaining the order of students with the highest level of eligibility as educational assistance recipients (Budhi & Jakarta, 2025).

3. RESULTS AND DISCUSSION

The results and discussion section presents the entire research process that has been carried out, starting from data collection, system needs analysis, to the application of the Profile Matching method in determining educational assistance recipients at SD N 9 Benteng. At this stage, data on prospective assistance recipients is processed based on predetermined criteria to produce information that can be used as a basis for decision making. Each calculation stage is carried out systematically by comparing the prospective recipient's profile to the predetermined ideal profile, so that a suitability value is obtained that reflects the level of eligibility of each student. In addition to presenting the calculation results, this section also discusses the implementation of a decision support system designed to assist schools in conducting the selection process for educational assistance recipients more objectively, effectively and transparently (Aminah et al., nd).

3.1. Data Management

Data processing in this study was carried out in stages to generate information that could be used to determine the students most deserving of educational assistance. The processing process began by collecting and grouping data from 20 students based on predetermined criteria, namely family economic conditions, student academic achievement, parent or guardian employment status, student attendance rate, number of dependents, student behavior and discipline, and ownership of other assistance. Next, each qualitative data was converted into a numeric value according to a predetermined assessment scale so that it could be processed using the Profile Matching method. After the weighting process was carried out, each student's score was compared with the ideal profile of an aid recipient to obtain a gap score. This gap score was then

converted into a new weight and used in calculating the Core Factor and Secondary Factor. The final stage of data processing produced a total score and ranking for each student, thus identifying prospective educational assistance recipients with the highest level of suitability based on the predetermined criteria (Nugraha et al., 2022).

3.2. Utilization of the Profile Matching Method

The use of the Profile Matching method in this study aims to assist schools in conducting a more objective, accurate, and transparent selection process for educational assistance recipients. This method is used to compare each student's profile with the ideal profile of an aid recipient that has been determined based on several criteria, namely family economic conditions, student academic achievement, parent or guardian employment status, student attendance rate, number of family dependents, student behavior and discipline, and ownership of other assistance. Through the process of calculating gaps, weighting scores, and ranking alternatives, the Profile Matching method is able to identify students who have the highest level of conformity to the criteria for aid recipients. The application of this method also helps reduce subjectivity in decision-making that often occurs in manual selection processes. In addition, the results obtained can be used as valid recommendations for schools in determining educational assistance recipients accurately (Kasus et al., 2025). The following is a description of the use of the profile matching method in this study:

a. The first stage is determining alternatives and criteria. Alternatives represent student data that will be prioritized, while criteria are determined based on family economic conditions, parent/guardian employment status, number of dependents, student academic achievement, student attendance, student behavior and discipline, and access to other assistance.

Table 2. Assessment Criteria Data

Criteria Code	Criteria	Types of Criteria
C1	Family Economic Condition	Benefits
C2	Parent/Guardian Employment Status	Benefits
C3	Number of Family Dependents	Benefits
C4	Student Academic Achievement	Benefits
C5	Student Attendance	Benefits
C6	Student Behavior and Discipline	Benefits
C7	Ownership of Other Assistance.	Cost

Table 3. Raw Data for Determining Student Recipients of Aid That Has Been Converted

Code	Student Name	Family Economic Condition	Parent/Guardian Employment Status	Number of Family Dependents	Student Academic Achievement	Student Attendance	Student Behavior and Discipline	Ownership of Other Assistance
A1	Rahul Khan	3	4	3	5	4	4	3
A2	Sukma Nazira	4	5	4	5	3	5	4
A3	Nadhira Almaira	2	3	2	4	5	3	2
A4	Prophet Ar-Rahman	5	4	5	5	4	4	5
A5	Altafih Rahman	3	2	3	3	3	3	2
A6	MHD. Rozi	4	3	4	4	2	4	3
A7	Aswinda Luftia Zahra	2	5	2	5	5	5	2
A8	Lala Anggraini	3	4	3	4	3	4	3
A9	Dimas	5	2	5	3	4	2	5
A10	Rizki	4	3	4	4	2	3	4
A11	Nadhifah Sakinah	2	5	2	5	5	5	2
A12	Raka Dwi Kano	3	3	3	4	3	3	3

A13	Rismayanti Simanullang	4	4	4	5	4	4	4
A14	Sofiah Rahmah	2	4	2	5	5	5	2
A15	Muhammad Kodori	5	2	5	3	4	2	5
A16	Maulana Malikul	3	3	3	4	3	3	3
A17	Dinil Khoirul	4	4	4	5	2	4	4
A18	Muhammad Danish	3	5	3	5	3	5	3
A19	Arimbi Star	2	4	2	4	5	4	2
A20	Rifki Anwar	5	3	5	4	4	3	5

b. The second step in determining aspect values is to first identify the aspects that will be used as the basis for assessment.

Table 4. Percentage Value Data of Aspects

No	Assessment Aspects	Percentage (%)	Core Factor (%)	Secondary Factor (%)
1	Family Economic Condition	30	60	40
2	Student Achievement and Character	40	60	40
3	Number of Family Dependents	30	60	40

c. After conducting the assessment, the third step is to calculate the GAP value, the GAP value is obtained from the difference between the alternative value and the target value.

Table 5. Ideal Profile Values

Criteria	Target
C1	5
C2	5
C3	5
C4	5
C5	5
C6	5
C7	5

Table 6. GAP Value Results for Each Alternative

Code	Student Name	C1	C2	C3	C4	C5	C6	C7
A1	Rahul Khan	-2	-1	-1	0	0	-1	-2
A2	Sukma Nazira	-1	-1	-2	0	-1	0	-1
A3	Nadhira Almaira	-3	-2	0	-1	-1	-2	-3
A4	Prophet Ar-Rahman	-1	0	-1	0	0	-1	0
A5	Altafih Rahman	-2	-1	-2	-3	-3	-2	-2
A6	MHD. Rozi	-1	-1	-3	-1	-1	-1	-2
A7	Aswinda Luftia Zahra	-3	-2	0	0	-1	0	-3
A8	Lala Anggraini	-2	-1	-2	-1	-1	-1	-2
A9	Dimas	-1	0	-1	-3	-3	-3	0
A10	Rizki	-1	-1	-3	-1	-1	-2	-1
A11	Nadhifah Sakinah	-3	-2	0	0	0	0	-3
A12	Raka Dwi Kano	-2	-1	-2	-1	-1	-2	-2
A13	Rismayanti Simanullang	-1	-1	-1	0	0	-1	-1
A14	Sofiah Rahmah	-3	-2	0	0	0	0	-3
A15	Muhammad Kodori	-1	0	-1	-3	-3	-3	0
A16	Maulana Malikul	-2	-1	-2	-1	-1	-2	-2
A17	Dinil Khoirul	-2	-1	-2	-1	-1	-2	-2
A18	Muhammad Danish	-2	-1	-2	0	0	0	-2
A19	Arimbi Star	-3	-2	0	-1	-1	-1	-3

A20	Rifki Anwar	-1	0	-1	-1	-1	-2	0

d. After obtaining the GAP value, the fourth step is to convert the difference into a value weight according to the conversion table 7.

Table 7. Results of Weight Difference Values

Code	Student Name	C1	C2	C3	C4	C5	C6	C7
A1	Rahul Khan	3	4	4	5	5	4	3
A2	Sukma Nazira	4	4	3	5	4	5	4
A3	Nadhira Almaira	2	3	5	4	4	3	2
A4	Prophet Ar-Rahman	4	5	4	5	5	4	5
A5	Altafih Rahman	3	4	3	2	2	3	3
A6	MHD. Rozi	4	4	2	4	4	4	3
A7	Aswinda Luftia Zahra	2	3	5	5	4	5	2
A8	Lala Anggraini	3	4	3	4	4	4	3
A9	Dimas	4	5	4	2	2	2	5
A10	Rizki	4	4	2	4	4	3	4
A11	Nadhifah Sakinah	2	3	5	5	5	5	2
A12	Raka Dwi Kano	3	4	3	4	4	3	3
A13	Rismayanti Simanullang	4	4	4	5	5	4	4
A14	Sofiah Rahmah	2	3	5	5	5	5	2
A15	Muhammad Kodori	4	5	4	2	2	2	5
A16	Maulana Malikul	3	4	3	4	4	3	3
A17	Dinil Khoirul	4	4	2	5	5	4	4
A18	Muhammad Danish	3	4	3	5	5	5	3
A19	Arimbi Star	2	3	5	4	4	4	2
A20	Rifki Anwar	4	5	4	4	4	3	5

e. After obtaining the GAP weight value, the fifth step is to determine the core and secondary factors. At this stage, the criteria are grouped into Core Factors (CF) and Secondary Factors (SF).

1) Alternative A1 – Rakul Khaira
Core Factor (C1 + C3 + C5 + C7) = (3 + 4 + 5 + 3)
Secondary Factor (C2 + C4 + C6) = (4 + 5 + 4)

2) Alternative A2 – Sukma Nazira
Core Factor = (4 + 3 + 4 + 4)
Secondary Factor = (4 + 5 + 5)

Table 8. Results of Core Factor (CF) and Secondary Factor (SF) Values

Code	Student Name	Core Factor (CF)	Total CF	Secondary Factor (SF)	Total SF
A1	Rahul Khan	(3+4+5+3)	15	(4+5+4)	13
A2	Sukma Nazira	(4+3+4+4)	15	(4+5+5)	14
A3	Nadhira Almaira	(2+5+4+2)	13	(3+4+3)	10
A4	Prophet Ar-Rahman	(4+4+5+5)	18	(5+5+4)	14
A5	Altafih Rahman	(3+3+2+3)	11	(4+2+3)	9
A6	MHD. Rozi	(4+2+4+3)	13	(4+4+4)	12
A7	Aswinda Luftia Zahra	(2+5+4+2)	13	(3+5+5)	13
A8	Lala Anggraini	(3+3+4+3)	13	(4+4+4)	12
A9	Dimas	(4+4+2+5)	15	(5+2+2)	9
A10	Rizki	(4+2+4+4)	14	(4+4+3)	11
A11	Nadhifah Sakinah	(2+5+5+2)	14	(3+5+5)	13
A12	Raka Dwi Kano	(3+3+4+3)	13	(4+4+3)	11
A13	Rismayanti Simanullang	(4+4+5+4)	17	(4+5+4)	13
A14	Sofiah Rahmah	(2+5+5+2)	14	(3+5+5)	13
A15	Muhammad Kodori	(4+4+2+5)	15	(5+2+2)	9
A16	Maulana Malikul	(3+3+4+3)	13	(4+4+3)	11
A17	Dinil Khoirul	(4+2+5+4)	15	(4+5+4)	13
A18	Muhammad Danish	(3+3+5+3)	14	(4+5+5)	14
A19	Arimbi Star	(2+5+4+2)	13	(3+4+4)	11
A20	Rifki Anwar	(4+4+4+5)	17	(5+4+3)	12

f. After obtaining the Core Factor and Secondary Factor values, the sixth step is to calculate the Core Factor (NCF) value for each student alternative.

1) Alternative A1 – Rakul Khaira

$$\text{NCF} = \frac{3+4+5+3}{4} = 3.75$$

2) Alternative A2 – Sukma Nazira

$$\text{NCF} = \frac{4+3+4+4}{4} = 3.75$$

Table 9. NCF Value Results

Code	Student Name	Total CF	Number of CF Criteria	NCF
A1	Rahul Khan	15	4	3.75
A2	Sukma Nazira	15	4	3.75
A3	Nadhira Almaira	13	4	3.25
A4	Prophet Ar-Rahman	18	4	4.5
A5	Altafih Rahman	11	4	2.75
A6	MHD. Rozi	13	4	3.25
A7	Aswinda Luftia Zahra	13	4	3.25
A8	Lala Anggraini	13	4	3.25
A9	Dimas	15	4	3.75
A10	Rizki	14	4	3.5
A11	Nadhifah Sakinah	14	4	3.5
A12	Raka Dwi Kano	13	4	3.25
A13	Rismayanti Simanullang	17	4	4.25
A14	Sofiah Rahmah	14	4	3.5
A15	Muhammad Kodori	15	4	3.75
A16	Maulana Malikul	13	4	3.25
A17	Dinil Khoirul	15	4	3.75
A18	Muhammad Danish	14	4	3.5
A19	Arimbi Star	13	4	3.25
A20	Rifki Anwar	17	4	4.25

g. After obtaining the Core Factor (NCF) value, the seventh step is to calculate the Secondary Factor (NSF) value for each student alternative.

1) Alternative A1 – Rakul Khaira

$$\text{NSF} = \frac{4+5+4}{3} = 4.33$$

2) Alternative A2 – Sukma Nazira

$$\text{NSF} = \frac{4+5+5}{3} = 4.67$$

Table 10. NSF Value Results

Code	Student Name	Total SF	Number of SF Criteria	NSF
A1	Rahul Khan	13	3	4.33
A2	Sukma Nazira	14	3	4.67
A3	Nadhira Almaira	10	3	3.33
A4	Prophet Ar-Rahman	14	3	4.67
A5	Altafih Rahman	9	3	3.00
A6	MHD. Rozi	12	3	4.00
A7	Aswinda Luftia Zahra	13	3	4.33
A8	Lala Anggraini	12	3	4.00
A9	Dimas	9	3	3.00
A10	Rizki	11	3	3.67
A11	Nadhifah Sakinah	13	3	4.33
A12	Raka Dwi Kano	11	3	3.67
A13	Rismayanti Simanullang	13	3	4.33
A14	Sofiah Rahmah	13	3	4.33
A15	Muhammad Kodori	9	3	3.00
A16	Maulana Malikul	11	3	3.67
A17	Dinil Khoirul	13	3	4.33

A18	Muhammad Danish	14	3	4.67
A19	Arimbi Star	11	3	3.67
A20	Rifki Anwar	12	3	4.00

h. After obtaining the Secondary Factor (NSF) score, the eighth step is to calculate the total aspect score for each student's alternative. The total aspect score is obtained by combining the Core Factor (NCF) and Secondary Factor (NSF) scores calculated in the previous step.

1) Alternative A1 – Rifki Anwar
   It is known:
   NCF = 3.75
   NSF = 4.33
   N=(0.6×3.75)+(0.4×4.33)= 4,598
2) Alternative A2 – Sukma Nazira
   It is known:
   NCF = 3.75
   NSF = 4.67
   N=(0.6×3.75)+(0.4×4.67)= 4,598

Table 11. Results of Total Values of NCF and NSF Aspects

Code	Student Name	NCF	NSF	Final Grade (N)
A1	Rahul Khan	3.75	4.33	4,598
A2	Sukma Nazira	3.75	4.67	4,598
A3	Nadhira Almaira	3.25	3.33	4.54
A4	Prophet Ar-Rahman	4.5	4.67	4,523
A5	Altafih Rahman	2.75	3	4,343
A6	MHD. Rozi	3.25	4	4,271
A7	Aswinda Luftia Zahra	3.25	4.33	4,266
A8	Lala Anggraini	3.25	4	4,131
A9	Dimas	3.75	3	4,094
A10	Rizki	3.5	3.67	4,084
A11	Nadhifah Sakinah	3.5	4.33	4,071
A12	Raka Dwi Kano	3.25	3.67	4,009
A13	Rismayanti Simanullang	4.25	4.33	3,938
A14	Sofiah Rahmah	3.5	4.33	0.189
A15	Muhammad Kodori	3.75	3	0.189
A16	Maulana Malikul	3.25	3.67	3,882
A17	Dinil Khoirul	3.75	4.33	3,743
A18	Muhammad Danish	3.5	4.67	3,634
A19	Arimbi Star	3.25	3.67	3.58
A20	Rifki Anwar	4.25	4	3.58

i. The final step in the Profile Matching method is to rank all alternatives based on the total scores obtained. Students with the highest scores are ranked first and are considered to have the highest level of fit with the ideal profile of educational assistance recipients. Conversely, students with lower scores are ranked next, based on the calculation.

Table 12. Ranking Results

No	Alternative Name	Final score	Information
1	Maulana Malikul Anshori Putra	4,598	Rank 1
2	Raka Dwi Kapo	4,598	Rank 2
3	Alfatin Rahman	04.54	Rank 3
4	Lala Anggraini	4,523	Rank 4
5	Rahul Khan	4,343	Rank 5
6	MHD. Rozi	4,271	Rank 6
7	Rizki	4,266	Rank 7
8	Rismayanti Simanulang	4.131	Rank 8
9	Muhammad Danish Arsyad	4,094	Rank 9
10	Nadhira Almira	4,084	Rank 10
11	Dinil Khoirul Akmal	4,071	Rank 11
12	Arimbi Star	4,009	Rank 12
13	Rifki Anwar	3,938	Rank 13
14	Muhammad Kodori	0.188889	Rank 14
15	Dimas	0.188889	Rank 15

16	Sukma Nazira	3,882	Rank 16
17	Prophet of Arabia	3,743	Rank 17
18	Sofiah Rahmah	3,634	Rank 18
19	Asvinda Lutfia Zahra	03.58	Rank 19
20	Nadhifah Sakinah Basdah	03.58	Rank 20

3.3. Comparison of This Research with Previous Research

The results of this study indicate that the Profile Matching method is capable of producing a more objective, systematic, and targeted selection process for educational assistance recipients. Based on the ranking results, each student received a final score according to their level of conformity to the ideal profile, with Maulana Maikul Anshori Putra and Raka Dwi Kapo receiving the highest scores, thus becoming the top priority for assistance recipients. These results were obtained through processing seven assessment criteria including family economic conditions, academic achievement, parent or guardian employment status, number of dependents, student attendance, behavior and discipline, and ownership of other assistance. When compared to previous studies, this study uses the same stages of the Profile Matching method, namely gap calculation, Core Factor, Secondary Factor, and ranking, but with criteria tailored to the needs of SD N 9 Benteng. This indicates that the Profile Matching method is effectively applied to produce recommendations for educational assistance recipients that are more accurate, transparent, and accountable (Sidabutar et al., 2024).

3.4. System Implementation

The system implementation in this study is the stage of applying the results of the analysis and system design into an application that can be used to assist the selection process for educational assistance recipients. The system is designed to manage student data, criteria data, assessment weights, and calculation processes using a computerized Profile Matching method. During the implementation stage, users can enter data on prospective assistance recipients, including family economic conditions, academic achievement, parent or guardian employment status, attendance rate, number of dependents, student behavior and discipline, and history of receiving other assistance. Next, the system will perform a profile matching process by calculating gap scores, determining value weights, calculating Core Factors and Secondary Factors, and generating final scores for each alternative. The results of this processing are displayed in the form of a ranking so that schools can easily identify students with the highest level of eligibility to receive educational assistance (Ananta et al., 2020).

3.4.1. User Login Page View

The user login page display is the website page display that will be accessed by the user to enter the main page of the website, where the user will carry out the account verification process to log in to the main page display of the website.

Figure 1. User Login Page Display

3.4.2. Website Main Menu Page Display

The Main Menu Page Display of the Website is the display of the website page that can be accessed by the user when they have completed the verification process. login to the website.

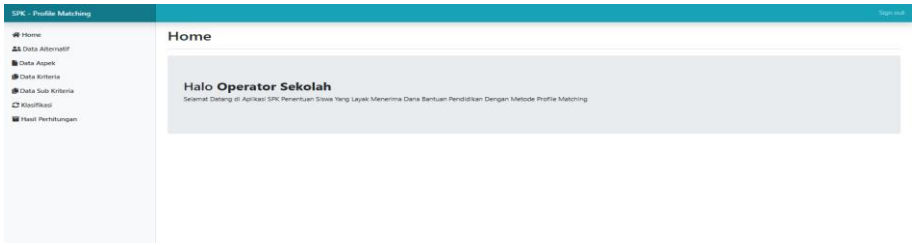

Figure 2. Main Menu Page Display of the Website

3.4.3. Ranking Results Data Page View

Ranking Results Data Page View is a website page display that can be accessed by users to see the results of determining the final value data from the Profile Matching Method that has been run on the system based on the assessment that has been carried out.

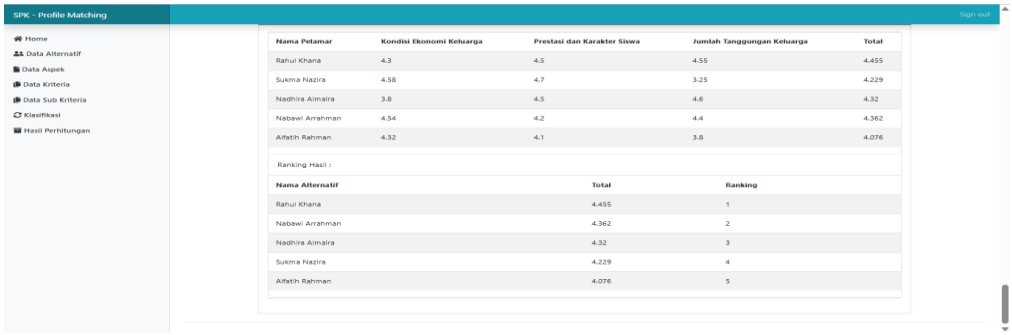

Figure 3. Display of the Profile Matching Method Ranking Results Data Page

3.5. Implications of Research Results

The results of this study have positive implications for the implementation of decision support systems in the field of education, particularly in the process of distributing educational assistance. Based on the ranking results, the system is able to sort all alternatives based on their level of conformity with the ideal profile, thus obtaining a more objective and measurable priority of aid recipients. Students with the highest scores, such as Maulana Maikul Anshori Putra and Raka Dwi Kapo, who obtained a final score of 4.598, were recommended as aid recipients because they had the highest level of conformity with the established criteria. The application of the Profile Matching method allows schools to evaluate each prospective recipient based on seven criteria, namely family economic condition, academic achievement, employment status of parents or guardians, number of dependents, student attendance, behavior and discipline, and ownership of other assistance. In addition to improving the accuracy of aid distribution targets, this system can also be used as a reference for schools in managing various other educational assistance programs that require a multi-criteria-based selection process, resulting in fairer, more accurate, and more accountable decisions.

3.6. Comparison of Results

Before the implementation of the Profile Matching method, the process of determining educational assistance recipients at State Elementary School 9 Benteng was still carried out manually, relying on assessments based on the school's considerations. This condition caused the selection process to take a relatively long time, lacked uniform assessment standards, and potentially led to subjectivity in determining the most deserving students. Furthermore, the management of prospective recipient data was not integrated, making the verification and comparison process between students less effective. After this research was implemented, the selection process experienced significant improvements through the use of a Profile Matching-based Decision Support System. All student data was assessed based on seven criteria: family economic condition, academic achievement, parent or guardian employment status, number of dependents, student attendance, behavior and discipline, and ownership of other assistance. The results of the data processing produced a clear ranking, with Maulana Maikul Anshori Putra and Raka Dwi Kapo receiving the highest score of 4.598, followed by Altafih Rahman with a score of 4.540 and other alternatives according to their level of eligibility. These changes indicate that the implementation of the Profile Matching method can improve objectivity, consistency, transparency, and accuracy in the process of determining educational assistance recipients. The following is a percentage image of the comparison before and after the application of the Profile Matching Method in the process of determining educational assistance at State Elementary School 09 Benteng (Figure 4).

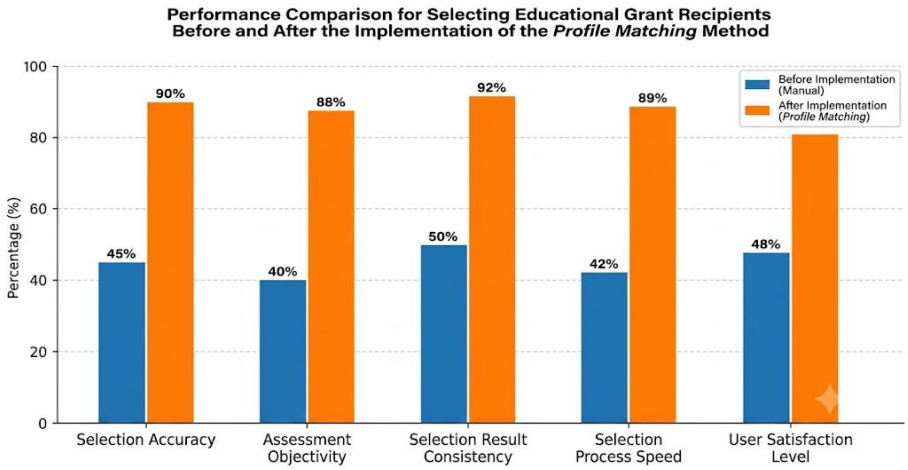

Figure 4. Percentage Comparison Graph of the Performance of the Educational Assistance Determination Process Before and After the Profile Matching Method Was Implemented

4. CONCLUSION

Based on the research results, a Decision Support System (DSS) for determining educational aid recipients at State Elementary School 09 Benteng was successfully designed and implemented using the Profile Matching method. This system was developed to assist schools in conducting the aid recipient selection process more objectively, effectively, and structured based on predetermined criteria. Through the system built, all student data, assessment criteria, weighting processes, and grade calculations can be managed in an integrated manner, thereby reducing subjectivity and increasing transparency in decision-making. The Profile Matching method was implemented through the stages of determining criteria, weighting, calculating gap scores, determining Core Factors and Secondary Factors, and ranking alternatives based on the final grades obtained by each student. The calculation results show that the Profile Matching method is able to produce a systematic priority order of educational aid recipients according to each student's eligibility level. Based on the ranking process, the alternative with the highest score is A4 Nabawi Arrahman with a score of 4.550, followed by A9 Dimas with a score of 4.523, and A1 Rahul Khana with a score of 4.343. Furthermore, the next positions were occupied by A15 Muhammad Kodori with a score of 4.271, A20 Rifki Anwar with a score of 4.131, A17 Dinil Khoirul with a score of 4.094, A13 Rismayanti Simanullang with a score of 4.071, A6 MHD. Rozi with a score of 4.024, and A2 Sukma Nazira with a score of 3.882. Meanwhile, other alternatives received lower scores because they had different levels of suitability to the ideal profile of educational assistance recipients. In addition, the Profile Matching method is able to provide more accurate recommendations for educational assistance recipients because it considers various important aspects, such as family economic conditions, parental employment status, number of family dependents, academic achievement, attendance, student discipline, and previous assistance receipt history. Although this research has produced a system capable of supporting the process of determining educational assistance recipients objectively, there are still opportunities for development in further research. Development can be done by increasing the number of alternatives and assessment criteria, such as parental income, living conditions, asset ownership and non-academic achievements to make the selection results more comprehensive. Furthermore, the Profile Matching method can be combined with other Decision Support System methods, such as TOPSIS, MOORA, or SAW, to compare the accuracy and quality of the resulting recommendations. In terms of implementation, the system can also be developed into a web-based or mobile application integrated with the school database, allowing for faster, more efficient, and automated data management, information updates, and report generation.

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