

## **Recruitment of STMIK Kaputama Laboratory Assistant with the WASPAS Method**

**Sri Wulandari<sup>1</sup>, Relita Buaton<sup>2</sup>, Magdalena Simanjuntak<sup>3</sup>**

<sup>1,2,3</sup>STMIK Kaputama

[swulandari1130@gmail.com](mailto:swulandari1130@gmail.com)<sup>1</sup>; [bbcbuaton@gmail.com](mailto:bbcbuaton@gmail.com)<sup>2</sup>; [magdalena.simanjuntak84@gmail.com](mailto:magdalena.simanjuntak84@gmail.com)<sup>3</sup>;

---

### **Abstract**

Decision Support System (DSS) is one of the approaches that can be used in the selection process for accepting laboratory assistants in a tertiary institution. DSS is often used to assist various decision-making processes within an organization. Through the various stages contained in the DSS, it is able to produce the output in the form of the best alternative from the various criteria that have been determined by the decision maker. There are various methods that can be used in relation to DSS, one of which is the Weighted Aggregated Sum Product Assessment (WASPAS). The Decision Support System can speed up the recruitment of new Laboratory assistants according to predetermined criteria when recruiting prospective Laboratory assistants at STMIK Kaputama. The STMIK Kaputama Laboratory is a computer laboratory that is used to support practicum courses at STMIK Kaputama. Each course has at least one assistant. The requirements for prospective laboratory assistants are that they must register and meet the criteria as potential assistants. The results of this study indicate that the proposed model can be used properly in carrying out the selection process for laboratory assistant recruitment. the WASPAS method is able to produce decisions in the form of the best alternative that can be used to assist decision-making parties. so that it can determine who is eligible to be accepted as a computer laboratory assistant at STMIK Kaputama.

**Keywords:** *Decision support system, Recruitment, Assistant Candidates, Waspas.*

---

### **1. Introduction**

Decision Support System (DSS) is one of the approaches that can be used in the selection process for accepting laboratory assistants in a tertiary institution. DSS is often used to assist various decision-making processes within an organization. Through the various stages contained in the DSS, it is able to produce the output in the form of the best alternative from the various criteria that have been determined by the decision maker. There are various methods that can be used in relation to DSS, one of which is the Weighted Aggregated Sum Product Assessment (WASPAS) (Asmah & Fadlan, 2022). [2]. Currently, Information and Communication Technology (ICT) has experienced rapid progress and entered all fields. The application of an information system allows an agency to process data more effectively and efficiently than manually (Aji, P. dan Mahdiana, 2018). [3]. Usually the Head of the Study Program or the head of the computer laboratory will provide information on the recruitment of laboratory assistants at every turn of the semester, recruitment is carried out with the condition that the prospective assistant must fill in data via the google form which has been informed to STMIK Kaputama students, after registering, the Head of the laboratory or the Head of the Program the study conducted interview tests and examination tests to prospective laboratory assistants. The results of the interview and examination tests will be taken into consideration in determining who will be accepted as a laboratory assistant. Based on the explanation above, a Decision Support System for Acceptance of Computer Laboratory Assistants will be built which aims to process the selection of laboratory assistants who are assisted using the Weighted Aggregated Sum Product Assessment (WASPAS) method. The WASPAS method is one of the DSS-related methods that can be used in the best decision-making cases. With this method, the process of selecting the highest to lowest alternative value can be done optimally (Asmah & Fadlan, 2022) [2]. The results of this study indicate that the proposed model can be used properly in carrying out the selection process for laboratory assistant recruitment. the WASPAS method is able to produce decisions in the form of the best alternative that can be used to assist decision-making parties. so that it can determine who is eligible to be accepted as a computer laboratory assistant at STMIK Kaputama.

## 2. Research Methods

### 2.1. Decision Support System

Decision Support System is one approach that can be used in the selection process for accepting laboratory assistants in a tertiary institution. DSS is often used to assist various decision-making processes within an organization. Through the various stages contained in the DSS, it is able to produce the output in the form of the best alternative from the various criteria that have been determined by the decision maker. There are various methods that can be used in relation to DSS, one of which is the Weighted Aggregated Sum Product Assessment (WASPAS) (Khalida et al., 2021) [1].

### 2.2. Waspas method

The Weighted Aggregated Sum Product Assessment (WASPAS) method is a combined method consisting of the WP method and the SAW method, the WASPAS method is expected to provide good results in assisting decision making (Khalida et al., 2021) [1]. The Waspas method is a multi-criteria decision-making method or better known as Multi-Criteria Decision Making (MCDM). MCDM is used to solve problems with conflicting and disproportionate criteria. This method focuses on ranking and selecting from a set of conflicting alternative criteria to be able to make a decision to reach a final decision. This method makes decisions with the closest solution to the ideal and alternatives are evaluated based on all the criteria set. The Waspas method is very useful in situations where the decision maker does not have the ability to make choices when the design of a system begins (Sianturi, 2019) [4]

### 2.3 The steps of the Waspas method

1. Create a Decision Matrix

$$= \begin{bmatrix} X_{11} & X_{12} & \cdots & X_{1n} \\ X_{21} & X_{22} & \cdots & X_{2n} \\ \vdots & \vdots & \ddots & \vdots \\ X_{m1} & X_{m2} & \cdots & X_{mn} \end{bmatrix} \quad (1)$$

Where (m) is the number of candidate alternatives,  
n is the number of evaluation criteria and  
 $x_{ij}$  is the alternative performance with respect to criterion j.

2. Normalize the  $x_{ij}$  matrix to produce a matrix  $x_{ij}^*$ 
  - a. For the criterion of benefits (benefit)

$$x_{ij}^* = \frac{x_{ij}}{\max_i x_{ij}} \quad (2)$$

- b. For the criterion of benefits (cost).

$$X_{ij} = \frac{\min_i X_{ij}}{X_{ij}} \quad (3)$$

3. Calculating matrix normalization values and WASPAS weights in decision making.

$$Q_i = 0,5 \sum_{j=1}^n X_{ij} w + 0,5 \prod_{j=1}^n (X_{ij})^{w_j} \quad (4)$$

Dimana :

$Q_i$  = Value from Q to i  
 $X_{ij} w$  = Value multiplication  $X_{ij}$  with weights (w)  
 0,5 = Ketetapan

The highest WASPAS  $Q_i$  method is the best alternative (Khalida et al., 2021) [1]

### 2.4 Laboratory Assistant Recruitment

Recruitment of laboratory assistants is a routine activity that is carried out every semester. Laboratory assistant recruitment is carried out by selecting assistant candidates according to predetermined criteria, this aims to optimize the existing learning process. In the recruitment of laboratory assistants there are work instructions that are used as a reference for the laboratory in carrying out the recruitment process for new assistants which involves the entire academic community of STMIK Kaputama.

This work instruction has several meanings, including:

1. Computer Laboratory Coordinator is the person in charge of all activities related to the laboratory
2. Laboratory administrator is responsible for distributing assistance schedules, managing administration related to computer laboratories, including managing the registration of prospective laboratory assistants
3. Laboratory is the person in charge as well as executor of all activities related to the laboratory
4. Laboratory assistants are students who will assist lecturers in the practicum learning process.
5. Prospective assistants are students who are competent and wish to become laboratory assistants.
6. Laboratory assistants are students who will assist lecturers in the practicum learning process.

In addition to work instructions related to computer laboratories, in the process of selecting prospective assistants, there are several qualifications/criteria that must be possessed by applicants. The criteria used in the selection of assistant candidates are:

1. Semester

To become an assistant, one of the prerequisites in the selection is seen from the semester of the assistant candidate. The minimum semester is V and the maximum is semester VII.

2. GPA score

GPA is one of the criteria that is also important in the selection of assistants. GPA is an academic standard that is used as a basis or benchmark for prospective assistants because GPA is related to the grades of courses that have been taken. The minimum standard for becoming an assistant is with a 3.00 GPA.

3. The value of the selected practicum course

The value of the chosen practicum course is the value obtained by the prospective assistant in the course where there is a practicum in the computer laboratory. The practicum value is the result of the evaluation of the prospective assistant while teaching the practical course. In the selection of assistants, the standards for assessing practicum scores are adjusted to the academic value standards at STMIK Kaputama.

4. The value of the results of the Examination Test

The value of the results of the Examination Test is a form of measuring tool used to determine the ability of prospective assistants in understanding theoretically. In the exam test, prospective assistants are given a number of questions related to practicum material.

5. Interview Test

The interview test is the last stage of the assistant selection process, where the assistant candidate is given a direct statement by the selection team to find out the commitment and responsibilities of being a computer laboratory assistant.

### 3. Results And Discussion

Several stages in completing this research are:

a. Identification of problems

This stage is the initial stage in the research, namely determining the background of the problem, the objectives and benefits of the research so that it does not get out of the discussion.

b. Theoretical review

This stage is to look for information, sources related to the problems faced both from literature, journals and the internet as a support and basic basis for thesis writing.

c. Data collection

This stage is the collection of data obtained through interviews, observation of supporting data and the main data needed in the system design process regarding these data obtained from student Alumni data.

d. Data analysis

This stage is the stage of processing and analyzing the data that has been obtained so that the data can be grouped according to the specified variables.

e. Testing and Implementation

This stage is the stage of testing the validation and implementation of the data that has been previously analyzed and the preparation of the program.

f. Evaluation

This stage is the stage of drawing conclusions and suggestions that can be made in preparing the thesis. With the conclusion, it is known the results of the entire thesis and the benefits for others.

The data collection used in compiling and completing the data is by means of observation, interviews and literature study.

- a. Observation, Observations were held directly to obtain data carried out at research sites related to research conducted at STMIK Kaputama.
- b. Interview, The interview was carried out by communicating directly with the party handling the recruitment of laboratory assistants, namely the head of the laboratory, the head of study program, and the head of STMIK Kaputama.
- c. Literature review, Literature study was conducted to obtain data and information by reading various writing materials, scientific articles and other sources on issues related to writing.

### 3.1. System planning

In designing a Decision Support system using the WASPAS method, researchers want to create a Laboratory Assistant Recruitment System. The system modeling concept that will be used in Building the STMIK Kaputama Laboratory Assistant System is as follows:

#### 1. Flowchart design

The design of the flowchart for the decision support system process for the recruitment of STMIK Kaputama laboratory assistants, which can be seen in Figure I.1, is as follows: Hand flowchart

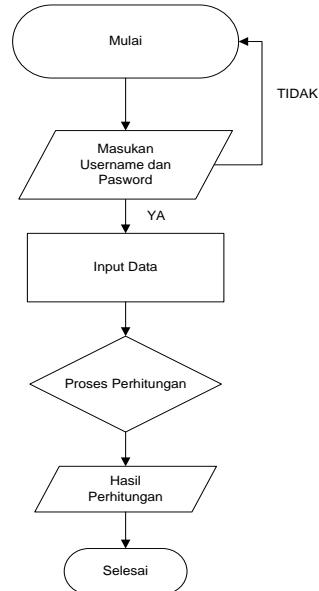


Figure 1: flowchart design

#### 2. Use Case Design

Use Case Diagram is a type of UML (Unified Modeling Language) diagram that describes the interaction between the system and actors. Use Case can describe the type of interaction between the system user and the system

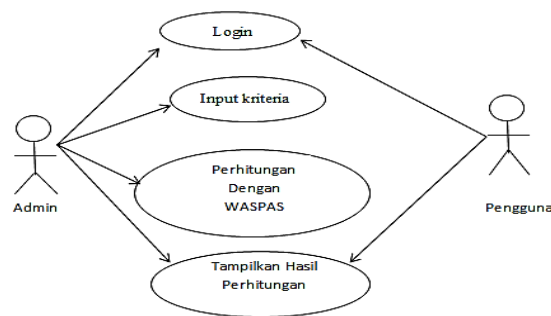


Figure 2: System Use Case Design

#### 3. Calculations with the alert method

The following is a table of supporting data in the Laboratory Assistant Recruitment research as follows:

Table 1: Alternative

Alternative	Student name
A1	Della Alfania
A2	Dwi Astika Sari
A3	Nur Khakiky
A4	Vica Yunika
A5	Fauzan Al An Sany Lubis
A6	Muhammad Rifa'i

A7	Tiara Jelita
A8	Windi Indah Sari Sinaga
A9	Fany Juliawati
A10	Budi Purnomo Siahan

Table 2: Criteria

Criteria	Information	Weight	Criteria Attributes
C1	The value of the selected practicum course	35%	Cost
C2	GPA	25%	Benefit
C3	Interview Test Scores	20%	Benefit
C4	Exam Test Scores	20%	Benefit

After completing the weighting, a table like the following will be obtained:

Table 3: Student Alternative Data

	C1	C2	C3	C4
A1	A	3,78	80	60
A2	A	3,93	80	70
A3	A	3,47	80	55
A4	A	3,22	75	50
A5	A	3,59	70	85
A6	A	3,82	80	85
A7	A	3,65	80	75
A8	A	3,27	80	75
A9	A	3,44	80	75
A10	A	4.00	60	98

The next step is the weighting of each criterion:

Weighting of the selected Course Value Criteria

Table 4: Grades of selected Courses

No.	Selected practicum course grades	information	Weight
1.	A	Very good	80
2.	B	good	70
3.	C	Pretty good	60
4.	D	Not good	50
5.	E	Not good	40

GPA Value weighting criteria

Table 5: GPA Scores

No.	GPA	Information	Weight
1.	3.50 - 4.00	Very good	80
2.	3.00 – 3.49	good	60
3.	< 3.00	Pretty good	40

Weighting Criteria Score Interview test

Table 6: Interview Test Scores

No.	Interview Test Scores	Information	Weight
1.	90-100	Very good	80
2.	80-89	Good	70
3.	70-79	Pretty good	60
4.	60-69	Not good	50
5	50-59	Not good	40

## Weighting of Exam Test Score Criteria

Tabel 7: Exam Test Scores

No.	Exam Test Scores	Information	Weight
1.	90-100	Very good	80
2.	80-89	Good	70
3.	70-79	Pretty good	60
4.	60-69	Not good	50
5	50-59	Not good	40

After that Create a match branch table

Table 8: Conformity Ratings

	C1	C2	C3	C4
A1	80	80	70	50
A2	80	80	70	60
A3	80	60	70	40
A4	80	60	60	40
A5	80	80	60	70
A6	80	80	70	70
A7	80	80	70	60
A8	80	60	70	60
A9	80	60	70	60
A10	80	80	40	80

Calculation steps using the alert method:

Step 1 : Create a Decision Matrix

80	80	70	50
80	80	70	60
80	60	70	40
80	60	60	40
80	80	60	70
80	80	70	70
80	80	70	60
80	60	70	60
80	60	70	60
80	80	40	80

Step 2 : Normalization of the Matrix (each criterion)

C1- Value of the selected course – Cost

$$X_{ij} = \frac{\min_i X_{ij}}{X_{ij}}$$

80	80	70	50
80	80	70	60
80	60	70	40
80	60	60	40
80	80	60	70
80	80	70	70
80	80	70	60
80	60	70	60
80	60	70	60
80	80	40	80

C1:

$$A11 = 80/80 = 1$$

$$A21 = 80/80 = 1$$

$$A31 = 80/80 = 1$$

$$A41 = 80/80 = 1$$

$$\begin{aligned}
A51 &= 80/80 = 1 \\
A61 &= 80/80 = 1 \\
A71 &= 80/80 = 1 \\
A81 &= 80/80 = 1 \\
A91 &= 80/80 = 1 \\
A101 &= 80/80 = 1
\end{aligned}$$

C2 : GPA Score – Benefit

$$X_{ij} = \frac{X_{ij}}{\max_i X_{ij}}$$

$$\begin{bmatrix}
80 & 80 & 70 & 50 \\
80 & 80 & 70 & 60 \\
80 & 60 & 70 & 40 \\
80 & 60 & 60 & 40 \\
80 & 80 & 60 & 70 \\
80 & 80 & 70 & 70 \\
80 & 80 & 70 & 60 \\
80 & 60 & 70 & 60 \\
80 & 60 & 70 & 60 \\
80 & 80 & 40 & 80
\end{bmatrix}$$

C2:

$$\begin{aligned}
A12 &= 80/80 = 1 \\
A22 &= 80/80 = 1 \\
A32 &= 60/80 = 0,75 \\
A42 &= 60/80 = 0,75 \\
A52 &= 80/80 = 1 \\
A62 &= 80/80 = 1 \\
A72 &= 80/80 = 1 \\
A82 &= 60/80 = 0,75 \\
A92 &= 60/80 = 0,75 \\
A102 &= 80/80 = 1
\end{aligned}$$

C3 : Interview Test Scores – Benefit

$$X_{ij} = \frac{X_{ij}}{\max_i X_{ij}}$$

$$\begin{bmatrix}
80 & 80 & 70 & 50 \\
80 & 80 & 70 & 60 \\
80 & 60 & 70 & 40 \\
80 & 60 & 60 & 40 \\
80 & 80 & 60 & 70 \\
80 & 80 & 70 & 70 \\
80 & 80 & 70 & 60 \\
80 & 60 & 70 & 60 \\
80 & 60 & 70 & 60 \\
80 & 80 & 40 & 80
\end{bmatrix}$$

C3:

$$\begin{aligned}
A13 &= 70/70 = 1 \\
A23 &= 70/70 = 1 \\
A33 &= 70/70 = 1 \\
A43 &= 60/70 = 0,85 \\
A53 &= 60/70 = 0,85 \\
A63 &= 70/70 = 1 \\
A73 &= 70/70 = 1 \\
A83 &= 70/70 = 1 \\
A93 &= 70/70 = 1 \\
A103 &= 50/70 = 0,71
\end{aligned}$$

C4 : Exam Test Scores – Benefit

$$X_{ij} = \frac{X_{ij}}{\max_i X_{ij}}$$

$$\begin{bmatrix} 80 & 80 & 70 & 50 \\ 80 & 80 & 70 & 60 \\ 80 & 60 & 70 & 40 \\ 80 & 60 & 60 & 40 \\ 80 & 80 & 60 & 70 \\ 80 & 80 & 70 & 70 \\ 80 & 80 & 70 & 60 \\ 80 & 60 & 70 & 60 \\ 80 & 60 & 70 & 60 \\ 80 & 80 & 40 & 80 \end{bmatrix}$$

C4:

$$\begin{aligned} A14 &= 50/80 = 0,65 \\ A24 &= 60/80 = 0,75 \\ A34 &= 40/80 = 0,5 \\ A44 &= 40/80 = 0,5 \\ A54 &= 70/80 = 0,87 \\ A64 &= 70/80 = 0,87 \\ A74 &= 60/80 = 0,75 \\ A84 &= 60/80 = 0,75 \\ A94 &= 60/80 = 0,75 \\ A104 &= 80/80 = 1 \end{aligned}$$

Normalization Results:

$$\begin{bmatrix} C1 & C2 & C3 & C4 \\ 1 & 1 & 1 & 0,65 \\ 1 & 1 & 1 & 0,75 \\ 1 & 0,75 & 1 & 0,5 \\ 1 & 0,75 & 0,85 & 0,5 \\ 1 & 1 & 0,85 & 0,87 \\ 1 & 1 & 1 & 0,87 \\ 1 & 1 & 1 & 0,75 \\ 1 & 0,75 & 1 & 0,75 \\ 1 & 0,75 & 1 & 0,75 \\ 1 & 1 & 0,71 & 1 \end{bmatrix}$$

Weight Normalization:

Tabel 9: Weight Normalization

Criteria	Information	Weight	Normalization
C1	Course grades	35%	0,35
C2	GPA	25%	0,25
C3	Interview Test Scores	20%	0,20
C4	Exam Test Scores	20%	0,20

Step 3: Calculating matrix normalization values and WASPAS weights in decision making (Qi)

Alternative Value A1 (Q1)

$$\begin{aligned} &= (0,5 \sum (1 * 0,35) (1 * 0,25) (1 * 0,20) (0,65 * 0,20)) \\ &= 0,5 \sum (0,35) + (0,25) + (0,20) + (0,13) = 0,93 \\ &= 0,5 * 0,93 = 0,465 \\ &= 0,5 \prod ((1^{\wedge} 0,35) (1^{\wedge} 0,25) (1^{\wedge} 0,20) (0,65^{\wedge} 0,20)) \\ &= 0,5 \prod (1) (1) (1) (0,91) \\ &= 0,5 * 0,91 = 0,455 \\ &= 0,465 + 0,455 \\ A1 &= 0,92 \end{aligned}$$



Alternative Value A2 (Q2)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (1 * 0,25) (1 * 0,20) (0,75 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,25) + (0,20) + (0,15) = 0,95 \\
 &= 0,5 * 0,95 = 0,475 \\
 &= 0,5 \prod (1^{0,35}) (1^{0,25}) (1^{0,20}) (0,75^{0,20}) \\
 &= 0,5 \prod (1) (1) (1) (0,944) = 0,944 \\
 &= 0,5 * 0,944 = 0,472 \\
 &= 0,475 + 0,472 \\
 &A2 = 0,947
 \end{aligned}$$

Alternative Value A3 (Q3)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (0,75 * 0,25) (1 * 0,20) (0,5 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,18) + (0,20) + (0,1) = 0,83 \\
 &= 0,5 * 0,83 \\
 &= 0,415 \\
 &= 0,5 \prod (1^{0,35}) (0,75^{0,25}) (1^{0,20}) (0,5^{0,20}) \\
 &= 0,5 \prod (1) (0,930) (1) (0,87) = 0,809 \\
 &= 0,5 * 0,809 = 0,404 \\
 &= 0,415 + 0,404 \\
 &A3 = 0,819
 \end{aligned}$$

Alternative Value A4 (Q4)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (0,75 * 0,25) (0,85 * 0,20) (0,5 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,18) + (0,17) + (0,1) = 0,8 \\
 &= 0,5 * 0,8 \\
 &= 0,4 \\
 &= 0,5 \prod (1^{0,35}) (0,75^{0,25}) (0,85^{0,20}) (0,5^{0,20}) \\
 &= 0,5 \prod (1) (0,930) (0,96) (0,87) = 0,776 \\
 &= 0,5 * 0,776 = 0,388 \\
 &= 0,4 + 0,388 \\
 &A4 = 0,788
 \end{aligned}$$

Alternative Value A5 (Q5)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (1 * 0,25) (0,85 * 0,20) (0,87 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,25) + (0,17) + (0,174) = 0,944 \\
 &= 0,5 * 0,944 \\
 &= 0,472 \\
 &= 0,5 \prod (1^{0,35}) (1^{0,25}) (0,85^{0,20}) (0,87^{0,20}) \\
 &= 0,5 \prod (1) (1) (0,96) (0,97) = 0,931 \\
 &= 0,5 * 0,931 = 0,465 \\
 &= 0,472 + 0,465 \\
 &A5 = 0,937
 \end{aligned}$$

Alternative Value A6 (Q6)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (1 * 0,25) (1 * 0,20) (0,87 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,25) + (0,20) + (0,174) = 0,974 \\
 &= 0,5 * 0,974 \\
 &= 0,487 \\
 &= 0,5 \prod (1^{0,35}) (1^{0,25}) (1^{0,20}) (0,87^{0,20}) \\
 &= 0,5 \prod (1) (1) (1) (0,97) = 0,97 \\
 &= 0,5 * 0,97 = 0,485 \\
 &= 0,487 + 0,485 \\
 &A6 = 0,972
 \end{aligned}$$

Alternative Value A7 (Q7)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (1 * 0,25) (1 * 0,20) (0,75 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,25) + (0,20) + (0,15) = 0,95 \\
 &= 0,5 * 0,95 \\
 &= 0,475 \\
 &= 0,5 \prod (1^{0,35}) (1^{0,25}) (1^{0,20}) (0,75^{0,20}) \\
 &= 0,5 \prod (1) (1) (1) (0,944) = 0,944 \\
 &= 0,5 * 0,944 = 0,472 \\
 &= 0,475 + 0,472 \\
 &A7 = 0,947
 \end{aligned}$$

Alternative Value A8 (Q8)

$$\begin{aligned}
 &= (0,5 \Sigma (1 * 0,35) (0,75 * 0,25) (1 * 0,20) (0,75 * 0,20)) \\
 &= 0,5 \Sigma (0,35) + (0,18) + (0,20) + (0,15) = 0,88
 \end{aligned}$$

$$\begin{aligned}
&= 0,5 * 0,88 \\
&= 0,44 \\
&= 0,5 \prod (1^{0,35}) (0,75^{0,25}) (1^{0,20}) (0,75^{0,20}) \\
&= 0,5 \prod (1) (0,93) (1) (0,944) = 0,877 \\
&= 0,5 * 0,877 = 0,438 \\
&= 0,44 + 0,438 \\
&A8 = 0,878
\end{aligned}$$

Alternative Value A9 (Q9)

$$\begin{aligned}
&= (0,5 \sum (1 * 0,35) (0,75 * 0,25) (1 * 0,20) (0,75 * 0,20)) \\
&= 0,5 \sum (0,35) + (0,18) + (0,20) + (0,15) = 0,88 \\
&= 0,5 * 0,88 \\
&= 0,44 \\
&= 0,5 \prod (1^{0,35}) (0,75^{0,25}) (1^{0,20}) (0,75^{0,20}) \\
&= 0,5 \prod (1) (0,93) (1) (0,944) = 0,877 \\
&= 0,5 * 0,877 = 0,438 \\
&= 0,44 + 0,438 \\
&A9 = 0,878
\end{aligned}$$

Alternative Value A10 (Q10)

$$\begin{aligned}
&= (0,5 \sum (1 * 0,35) (1 * 0,25) (0,71 * 0,20) (1 * 0,20)) \\
&= 0,5 \sum (0,35) + (0,25) + (0,14) + (0,20) = 0,94 \\
&= 0,5 * 0,94 \\
&= 0,47 \\
&= 0,5 \prod (1^{0,35}) (1^{0,25}) (0,71^{0,20}) (1^{0,20}) \\
&= 0,5 \prod (1) (1) (0,933) (1) = 0,933 \\
&= 0,5 * 0,933 = 0,466 \\
&= 0,47 + 0,466 \\
&A10 = 0,936
\end{aligned}$$

Tabel 10: Ranking Results

Alternative Code	Student name	Qi	Rank
A6	Muhammad Rifa'i	0,972	1
A2	Dwi Astika Sari	0,947	2
A7	Tiara Jelita	0,947	3
A5	Fauzan Al An Sany Lubis	0,937	4
A10	Budi Purnomo Siahan	0,936	5
A1	Della Alfania	0,920	6
A8	Windi Indah Sari Sinaga	0,878	7
A9	Fany Juliawati	0,878	8
A3	Nur Khakiky	0,819	9
A4	Vica Yunika	0,788	10

From the table above it can be concluded that A6, with the highest Qi value of 0.972 has the highest priority to be made the right Laboratory Assistant at STMIK Kaputama.

#### 4. Testing

The results of the display of the STMIK Kaputama Laboratory Assistant Recruitment program which will be designed are as follows:

Rekrutmen Asisten Laboratorium STMIK Kaputama Dengan Metode WASPAS

Selamat Datang Calon Asisten Laboratorium. Silahkan Klik Login dan Pastikan Anda sudah memenuhi persyaratan untuk menjadi Asisten Laboratorium STMIK Kaputama, Good Luck!!!

Login Account

admin

\*\*\*\*

Masuk

figure 3: Login Page

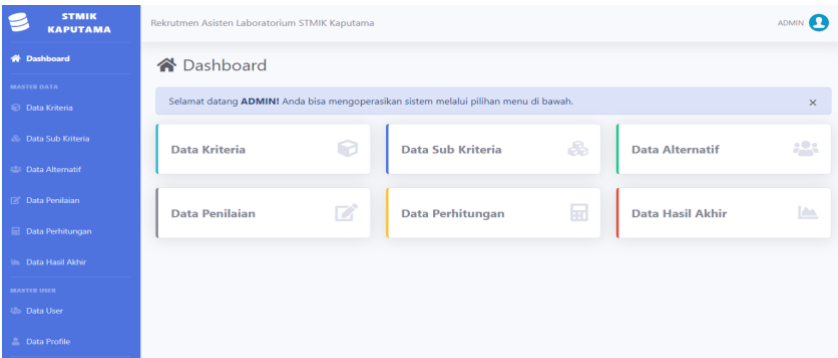


Figure 4: Admin page

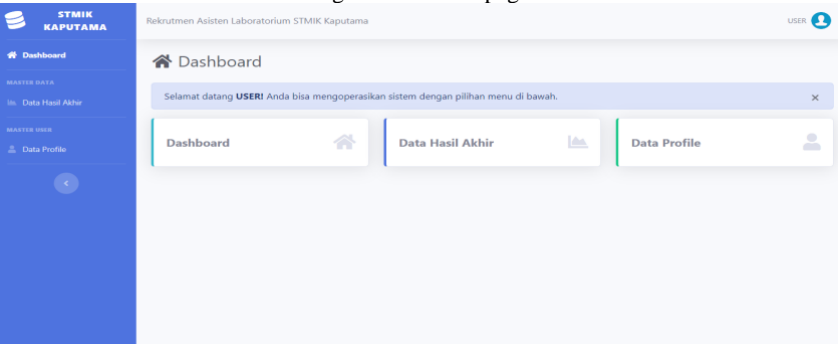


Figure 5: User Page

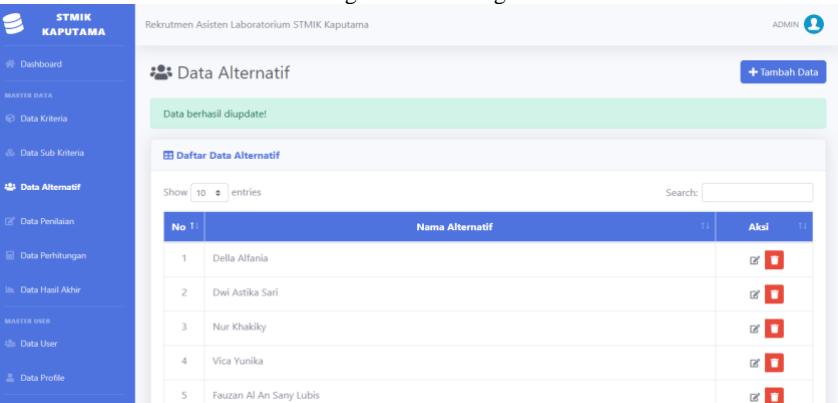
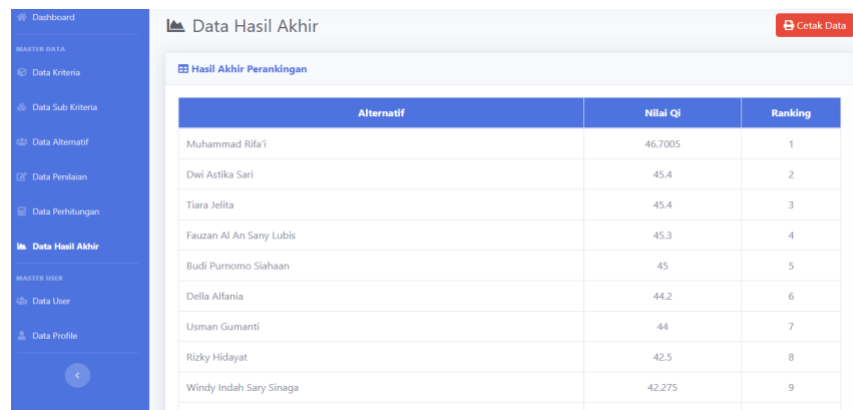


Figure 6: Alternative Data Pages



Figure 7: Calculation page



Alternatif	Nilai Qi	Ranking
Muhammad Rifa'i	46.7005	1
Dwi Astika Sari	45.4	2
Tiara Jelita	45.4	3
Fauzan Al An Sany Lubis	45.3	4
Budi Purnomo Siahaan	45	5
Della Alfania	44.2	6
Usman Gumanti	44	7
Rizky Hidayat	42.5	8
Windy Indah Sary Sinaga	42.275	9

Figure 8: Results Page

## 5. Conclusions

Based on the research that has been carried out while implementing the WASPAS (weighted Aggregated Sum Product Assessment) method in the Decision Support System for Recruitment of STMIK Kaputama Laboratory Assistants with the WASPAS Method, several conclusions can be drawn as follows:

1. By building a decision support system for the Recruitment of STMIK Kaputama Laboratory Assistants with the WASPAS Method, it can produce the best candidate ranking for Laboratory Assistants.
2. With this system, it will greatly help the STMIK Kaputama Agency, especially the Management and Head of the Study program to recruit Laboratory Assistants at each semester change.
3. By using the WASPAS method, calculations can be carried out automatically when the Admin inputs alternative values and criteria values, so that it can reduce problems in making decisions in the Recruitment of STMIK Kaputama Laboratory Assistant.

## References

- [1] Khalida, R., Bangun, B., Mesran, M., & Oktari, N. (2021). Penerapan Metode ROC dan Weighted Aggregated Sum Product Assesment (WASPAS) dalam Penerimaan Asisten Perkebunan. *Jurnal Media Informatika Budidarma*, 5(3), 937. <https://doi.org/10.30865/mib.v5i3.3092>.
- [2] Asmah, A., & Fadlan, M. (2022). Model Pendukung Keputusan Seleksi Penerimaan Asisten Laboratorium Menggunakan Perpaduan Metode Roc Dan Waspas. *JIKA (Jurnal Informatika)*, 6(1), 64. <https://doi.org/10.31000/jika.v6i1.5516>.
- [3] Aji, P. dan Mahdiana, D. (2018). Penerapan Metode SAW Pada Sistem Penunjang Keputusan Penilaian Calon Asisten Lab ICT Terpadu Universitas Budi Luhur. *IDEALIS: InDonEsiA Journal Information System*, 2(4), 154–158.
- [4] Sianturi, R. D. (2019). Penerapan Metode Waspas untuk Pengambilan Keputusan Penerimaan Siswa / i Baru. 66–71.