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SATPOL PP Performance Assessment Using the WASPAS Method in Decision Making Effectiveness

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Abstract−Civil Service Police Unit (SATPOLPP) as one of the government's instruments enforces regional regulations and maintains security and protects the community. Leaders have difficulties when evaluating the performance of their members. Manual performance measurement is very ineffective if carried out randomly or by self-assessment. Performance assessments in local government must follow the procedures or rules applicable in local government regulations. Apart from that, the standard for evaluating honorary staff must be based on assessment criteria. In carrying out the analysis, an effective system is needed that can assess the results of member performance. So a performance assessment decision support system is needed using the Weighted Aggregated Sum Product Assessment (WASPAS) algorithm. The WASPAS method has the ability to solve multi-criteria decision problems which are able to reduce errors and optimize in providing assessments and determining alternative highest and lowest values, speed in data management and provide information output results in the form of reports containing performance assessment ranking results. The weights for each criterion are Absence (20%), Work (40%), Collaboration (10%), Discipline (10%), and Knowledge (20%). The results of manual calculations and the application of the WASPAS method show that the highest alternative value obtained a value of 50.5 to the lowest alternative which obtained a value of 26.5 with the same accuracy. so that the evaluation and sanctions obtained can decide who gets ownership and which members can be recommended to extend the work contract using the criteria for consideration. With this calculation system, it becomes faster and more effective in obtaining performance scores for SATPOLPP members and speeding up the leadership decision-making process.

Keywords: WASPAS; Decision Support; Performance; Evaluation; SATPOLPP

1. INTRODUCTION

The Regional Civil Service Police Unit (SATPOL PP) plays a crucial role in enhancing regional autonomy and improving public services within the region. According to Law Number 23 of 2014 on Regional Government, SATPOL PP is tasked with enforcing Regional Regulations, maintaining public order, ensuring community comfort and tranquility (K3), and offering community protection, thereby emphasizing its importance in the regional apparatus [1]. SATPOLPP members who have the status of Honorary Personnel have been around for a long time, the term of office for SATPOLPP Hanorer Personnel is only valid for one year[2]. The problem with contract extensions for honorary staff is that so far SATPOLPP's determination of contract extensions for honorary staff still measures members' performance manually. Manual measurements have weaknesses, one of which is that it is difficult to collect data. Hence, it is imperative to establish an operational system designed to identify and address issues effectively, thereby evaluating the performance of each member based on the challenges encountered and the solutions provided [3][4]. The continuity of honorary staff is determined by their performance, the better their performance, the greater their chances of having their contract extended, but if their performance is not satisfactory the agency has the right to fire them [5].

In determining a performance assessment in a local government, it is very ineffective if it is carried out randomly or in a separate assessment, but in selecting a performance assessment you must follow the procedures or rules that apply in local government regulations, for a certain period, which are also the provisions and criteria in selecting and assessing SATPOLPP honorary staff with the best performance is by assessing attendance, work, cooperation, discipline, and also knowledge [6]. criteria that a problem has so that a weight value is obtained from the importance of each problem according to existing regulations [7] The assessment process carried out on member performance must be objective, so that it can be held accountable and does not become a problem for other members who do not receive contract extensions. [8].

Discipline is an effort to increase awareness and applicable norms, in problems that arise related to performance where there are still some members who are late to attend and members do not come to work. There are still quite a lot of gaps that are not in line with idealism, there are still several weaknesses that are still pointed out by members [9] Encouraging members to uphold self-discipline in their individual and collective tasks serves to foster adherence to existing rules, procedures, and policies, thereby promoting effective performance. Moreover, discipline aids in cultivating a culture of compliance and appreciation for established guidelines, ultimately leading to exemplary outcomes [10], In relation to the responsibilities assigned to them, the performance of a member is evaluated based on the quality and quantity of work accomplished [11]. An agency can be said to be successful if the agency can manage human resources well, in a professional, modern and trustworthy manner [12] The exemplary performance serves as a demonstration of members' successful execution of their duties and responsibilities aligned with the agency's vision, mission, and objectives, thereby attaining the anticipated outcomes [13]. Evaluating performance can contribute to the development and training of human resources, as well as enhance the effective utilization of honorary staff based on their assigned duties and functions. However, an unjust performance assessment process for honorary staff can adversely impact both the individuals themselves and the agency as a whole [14].

In previous research conducted by Jannah et al. (2022) entitled "Decision Support System for Termination of Employment Using the WASPAS Method" said that having a decision support system will make it easier for leaders to consider terminating employee employment. This decision support system uses the WASPAS method [15]. In another research regarding the WASPAS method conducted by Layyinah et al. (2022) entitled "Decision Support System for SATPOL PP Performance Assessment Using the WASPAS Method" said that the WASPAS method is very easy to understand because this method is a combination of the WP method and the SAW method, namely by looking for performance assessment priorities using weighting. The results of this research obtain maximum results in analyzing and can help department heads to determine work contracts in assessing the performance of honorary employees of the Civil Service Police Unit (SatPol PP) [16]. Research conducted by Zebua et all (2022) entitled "Application of the WASPAS Method in Employee Performance Assessment Decision Support Systems" states that the results of this research are to calculate employee performance assessments which provide speed in data processing and provide information output results in the form of reports containing the results ranking of achievement performance assessments [17].

The application of the Weighted Aggregated Sum Product Assessment (WASPAS) method is expected to be able to develop leadership decision making efforts in extending the next Honorary staff contract for a certain period [16] The decision support system in the decision making process using several data and the WASPAS method is able to solve a problem with semi-structured conditions and unstructured conditions [18]. The aim of this research is to build a manual member work assessment system into a decision support application and show the level of accuracy into valid data. The developed SPK is used to speed up calculations and leadership decision making in evaluating the performance of SATPOLPP honorary members effectively and competitively. The WASPAS method has the ability to solve multi-criteria decision problems which is able to reduce errors and optimize in providing assessments and determining the highest and lowest value.[13]

2. RESEARCH METHODOLOGY

The research method is a sequential process of collecting data and information, analyzing and processing the data, and producing analytical output from the research that has been carried out. To overcome problems involving the process of conducting research, research stages are required to be arranged in an organized manner before the research can begin.

2.1 Research Stages

Research Stages In conducting research on the performance of Satpolpp, namely:

a. Identify the issue

When examining the problem, the author aims to determine the nature of the problems, their underlying causes, and the methods employed to address them.

b. Literature Review

The author conducted a comprehensive literature review employing the method of studying existing literature. This involved gathering data from diverse sources relevant to the research being conducted.

c. Data collection

Data collection was carried out by means of observation, interview techniques, and searching for references from journals, book articles and other supporting theories.

d. Application of the method

Application of the Weighted Aggregated Sum Product Assessment (WASPAS) method by determining criteria, determining alternatives and determining weights using formula calculations

e. Concluding Remarks

The author summarizes all the findings from the preceding stages conducted in the research.

An overview of the research stages can be seen in Figure 1:

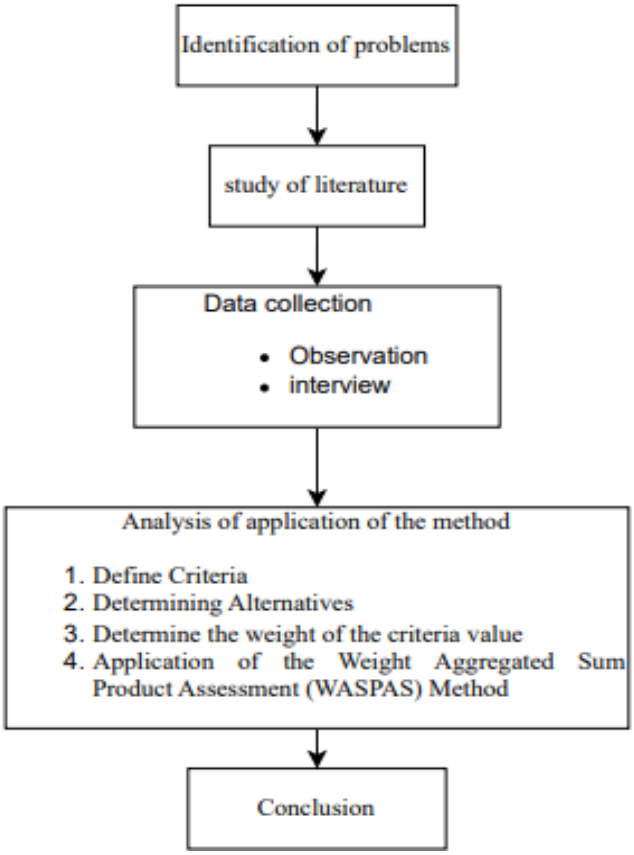


Figure 1. Research stages

2.2 Decision Support System (DSS)

In its application there are several methods in SPK that are often encountered, such as OCRA, COPRAS, MAUT, SAW, WP, WASPAS, MOORA, TOPSIS, PROMETHEE, ENTROPHY and so on [19]. A Decision Support System (DSS) is a computerized system crafted to aid users in decision-making by furnishing pertinent information and analyzing it based on the user's requirements. DSS can help users by providing the data, information, and analysis needed to make informed decisions. DSS are typically used in unstructured or unpredictable situations, where users need help in managing information and making decisions based on available data [20].

2.3 Algoritma Weighted Aggregated Sum Product Assesment (WASPAS)

The Weighted Aggregated Sum Product Assessment (WASPAS) method integrates elements of both the WP method and the SAW method. It is anticipated that this combined approach will yield superior outcomes in facilitating decision-support systems [21] Search for priorities for the most suitable alternative options using weighting. The WASPAS method is an approach aimed at minimizing errors and enhancing the accuracy of estimating or selecting the highest and lowest values [22]. The system algorithm is an explanation of problem solving steps in designing a decision support system in determining member performance priorities using the Weight Aggregated Sum Product Assessment (WASPAS) method. WASPAS is a method that merges two optimality criteria. The first criterion involves calculating the weighted sum of normalized values, resembling the SAW method's approach to performance assessment. The second criterion mirrors the WP method's methodology [17]. Apart from that, the WASPAS method that has been created will be implemented into a Decision Support System (DSS) [23]. This is done to get efficient and effective results in calculations. There are 2 (two) substances of the system algorithm, namely as follows:

a. from the WASPAS method
   The following is a flowchart of the WASPAS method, namely as follows in Figure 2:

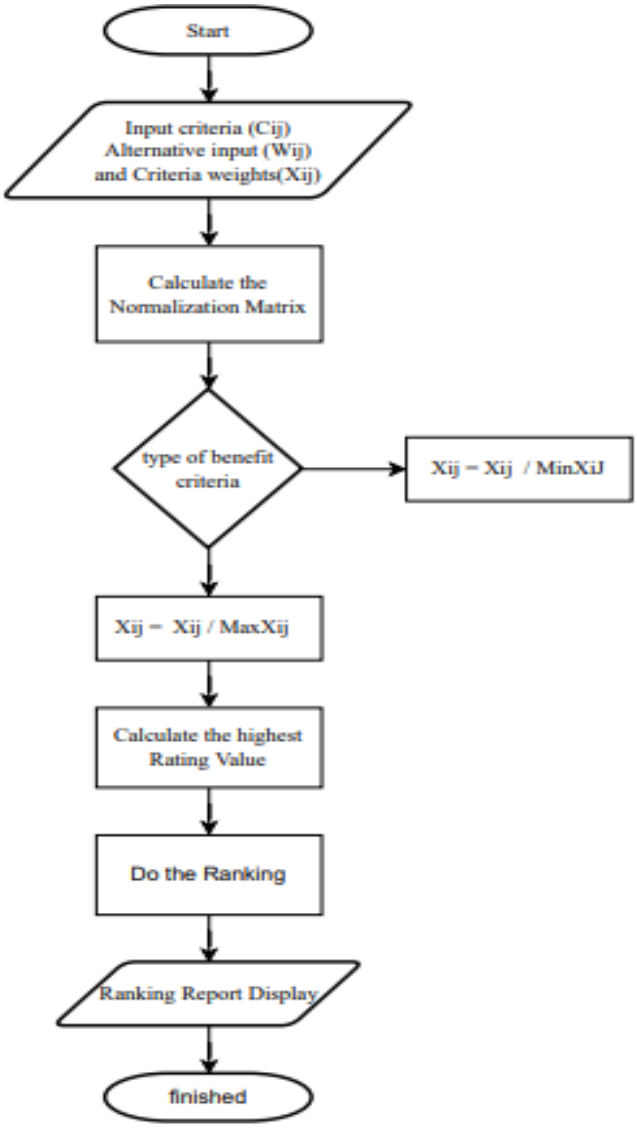


Figure 2. WASPAS method flowchart

b. Solving problems using the WASPAS method

Below are the procedures for implementing the Weighted Aggregated Sum Product Assessment (WASPAS) method [24]. As Follows:

First Step: Determine Criteria, Weights and Alternatives. Second step: Create a matrix for making a decision. It can be seen from the description that the formula is as follows:

$$x = \begin{bmatrix} x11 & x12 & \dots & x1n \\ x12 & x22 & \dots & x2n \\ \dots & \dots & \dots & \dots \\ xm1 & xm2 & \dots & x3n \end{bmatrix} \dots\dots \quad (1)$$

Third Step: Calculating the Normalized Value and Weighted Aggregated Sun Product Assessment. Where the formula is used if the maximum value is determined then the equation becomes as follows:

If the benefit criteria are then:

$$Xij = \frac{xij}{MaxXij} \quad (2)$$

If the Cost criteria are then:

$$Xij = \frac{xij}{MinXij} \quad (3)$$

The fourth step is calculating Qi from normalization and weights and ranking it based on the highest Qi value, namely by calculating the normalized value of the matrix and the weight of the Weighted Aggregated Sun Product Assessment (WASPAS) in decision making

$$Q = 0.5 \sum_{j=1}^{n} Xij.wj + 0.5 \prod_{j=1} (Xij)^{wj} \quad (4)$$

Where the information 0.5 is the definition of the formula, Qi = value from Q to i where A sigma Xij.w = multiplication of the value of Xij with the weight (w) plus 0.5 product (Xij) ^{wj} = The value of Xij raised to the power of the weight (w), which is the formula Xij.w is the WSM formula and $(Xij)^{wj}$ is the WPM formula.

3. RESULT AND DISCUSSION

3.1 Research Population and Sample

In this research, the author will analyze several honorary staff. As for the alternative honorary staff that the author uses. For ease of explanation of stages and calculations, the number of respondents involved in this research was 10 members from a total population of 88 members. The sample is members of the Satpolpp in Table 1 below:

Table 1. Example of an assessment data table for the Karawang Regency Satpol PP

	category	**Cost**	**Benefit**	**Benefit**	**Benefit**	**Benefit**
	Bobot	**20%**	**40%**	**10%**	**10%**	**20%**
No	**Alternative**	**C1**	**C2**	**C3**	**C4**	**C5**
1	Aang Bakhtiar	4	80%	Good	4	Good
2	Agus Mulyana	1	79%	Very good	5	Very good
3	Agus Slamet	3	80%	Good	2	Pretty good
4	Mulyadih	5	90%	Very good	3	Good
5	Junaedi	2	90%	Good	4	Good
6	Ninding Komara	1	75%	Good	4	Good
7	Ade Rusyana	1	75%	Not good	2	Very good
8	Rudi Nugraha	4	75%	Pretty good	5	Not good
9	Hernawan	1	80%	Very good	5	Very good
10	Khoerudin	2	80%	Very good	5	Good

Before assessing employee performance, criteria are needed to be used as assessment material. There are 5 attributes/criteria that the author will discuss. In this case, the 5 criteria have types of costs and benefits with predetermined value weights. This decision weighting determines the value of a criterion in order to get results that match the criteria, and this decision weighting clarifies what values will be chosen for the flow to get the appropriate results [25]. The following are alternatives and attributes/criteria for analyzing the performance of honorary staff.

3.1.1 Criteria and Criteria Sets

The criteria used in the decision support system for assessing the performance of civil service police units are in Table 2 as follows:

Table 2. Criteria

Criteria Code	**Criteria**	**Attribute**	**weight**	**Value**
C1	Absence	Cost	20%	0,20
C2	Work	Benefit	40%	0,40
C3	Cooperation	Benefit	10%	0,10
C4	Discipline	Benefit	10%	0,10
C5	Knowledge	Benefit	20%	0,20

a. Absence Criteria

The greater the number of members present, the more absent members will get the lowest weight. The weight of absenteeism can be seen in Table 3 below:

Table 3. Criteria Absence

Criteria Code	**Criteria Name**	**Set**	**weight**
C1	Absence	Very good	1
		Good	2
		Pretty good	3
		Not good	4
		Not good	5

b. Job Criteria

Work is taken as a measure of loyalty in work for each member. Table 4 is the information and weight obtained from the work value

Table 4. Criteria Work

Criteria Code	Criteria Name	Set	Explanatian	weight
C2	Work	0%-24%	Independent	1
		24%-49%	Work target	2
		50%-64%	Work commitment	3
		65%-79%	Working quantity	4
		80%-100%	Work quality	5

c. Collaboration criteria

Cooperation is taken as the solidarity of fellow SATPOLPP members, the weight obtained on cooperation is seen in Table 5 below:

Table 5. Criteria Cooperation

Criteria Code	Criteria Name	Set	weight
C3	Cooperation	Not good	1
		Not good	2
		Pretty good	3
		Good	4
		Very good	5

d. Disciplinary Criteria

Discipline criteria to see how members behave in accordance with the rules that apply in an agency, Table 6 is the discipline value

Table 6. Criteria Discipline

Criteria Code	Criteria Name	Set	Explanatian	weight
C4	Discipline	Undisciplined	Not on time	1
		Lack of discipline	Ethics/polite manners	2
		Just be disciplined	Dress neatly	3
		Discipline	Responsibilities at work	4
		Very disciplined	Be there on time	5

e. Knowledge Criteria

Knowledge is measured to determine members' knowledge abilities in acting in the field, as follows in Table 7 Knowledge criteria

Table 7. Criteria Knowledge

Kode kriteria	Nama kriteria	Himpunan	Bobot
C5	Knowledge	Not good	1
		Not good	2
		Pretty good	3
		Good	4
		Very good	5

3.1.2 Case Studies And Solutions

Where the final goal is to assess the highest and lowest effective and competitive member performance and use problem solving steps using the WASPAS method as follows:

a. Establish a decision-making matrix

Alternative data is converted into numerical values at predetermined weights as in Table 8 below:

Table 8. Alternative data (respondent assessment)

No	Alternatif	Nama Kriteria				
		C1	C2	C3	C4	C5
1	Aang Bakhtiar	4	5	4	4	4
2	Agus Mulyana	1	4	5	5	5
3	Agus Slamet	3	5	4	5	3
4	Mulyadih	5	5	5	3	4
5	Junaedi	2	5	4	4	4
6	Ninding Komara	1	4	4	4	4
7	Ade Rusyana	1	4	2	2	5
8	Rudi Nugraha	4	4	3	5	2

9	Hernawan	1	5	5	5	5
10	Khoerudin	2	5	5	5	5

Decision Matrix

$$X = \begin{bmatrix} C1 & C2 & C3 & C4 & C5 \\ 4 & 5 & 4 & 4 & 4 \\ 1 & 3 & 5 & 5 & 5 \\ 3 & 5 & 4 & 2 & 3 \\ 5 & 5 & 5 & 3 & 4 \\ 2 & 5 & 4 & 4 & 4 \\ 1 & 3 & 4 & 4 & 4 \\ 1 & 3 & 2 & 2 & 5 \\ 4 & 3 & 3 & 5 & 2 \\ 1 & 5 & 5 & 5 & 5 \\ 2 & 5 & 5 & 3 & 4 \end{bmatrix}$$

b. Calculate the normalized value for each criterion

1. Criteria Absence (C1) => COST => $Xij = \frac{xij}{MiniXij}$

   Information :
   In the attendance criteria (C1) the value 1 is the minimum value.

   $A_{11} = \frac{1}{4} = 0{,}25$ $A_{16} = \frac{1}{1} = 1$
   $A_{21} = \frac{1}{1} = 1$ $A_{17} = \frac{1}{1} = 1$
   $A_{31} = \frac{1}{3} = 0{,}33$ $A_{18} = \frac{1}{4} = 0{,}25$
   $A_{41} = \frac{1}{5} = 0{,}2$ $A_{19} = \frac{1}{1} = 1$
   $A_{51} = \frac{1}{2} = 0{,}5$ $A_{110} = \frac{1}{2} = 0{,}5$

2. Calculating work Criteria (C2) => BENEFITS => => $Xij = \frac{xij}{MaxiXij}$

   Information :
   In work criteria (C2) a value of 5 is the maximum value

   .$A_{12} = \frac{5}{5} = 1$ $A_{62} = \frac{3}{5} = 1$
   $A_{22} = \frac{3}{5} = 0{,}6$ $A_{72} = \frac{3}{5} = 0{,}6$
   $A_{32} = \frac{5}{5} = 1$ $A_{82} = \frac{3}{5} = 0{,}6$
   $A_{42} = \frac{5}{5} = 1$ $A_{92} = \frac{5}{5} = 1$
   $A_{52} = \frac{5}{5} = 1$ $A_{102} = \frac{5}{5} = 1$

3. Calculating Cooperation Criteria (C3) => BENEFIT => $Xij = \frac{xij}{MaxiXij}$

   Information :
   In Cooperation Criteria (C3) a value of 5 is the maximum value

   $A_{13} = \frac{4}{5} = 0{,}8$ $A_{63} = \frac{4}{5} = 0{,}8$
   $A_{23} = \frac{5}{5} = 1$ $A_{73} = \frac{2}{5} = 0{,}50$
   $A_{33} = \frac{4}{5} = 0{,}8$ $A_{83} = \frac{3}{5} = 0{,}75$
   $A_{43} = \frac{5}{5} = 1$ $A_{93} = \frac{5}{5} = 1$
   $A_{53} = \frac{4}{5} = 0{,}8$ $A_{103} = \frac{5}{5} = 1$

4. Calculating Disciplinary Criteria (C4) => BENEFIT => $Xij = \frac{xij}{MaxiXij}$

   Information :
   In the discipline criteria (C4) a value of 5 is the maximum value.

   $A_{14} = \frac{4}{5} = 0{,}8$ $A_{64} = \frac{4}{5} = 0{,}8$
   $A_{24} = \frac{5}{5} = 1$ $A_{74} = \frac{2}{5} = 0{,}4$
   $A_{34} = \frac{2}{5} = 0{,}4$ $A_{84} = \frac{5}{5} = 1$
   $A_{44} = \frac{3}{5} = 0{,}6$ $A_{94} = \frac{5}{5} = 1$
   $A_{54} = \frac{4}{5} = 0{,}8$ $A_{104} = \frac{5}{5} = 1$

5. Calculating Knowledge Criteria (C5) => BENEFIT => $Xij = \frac{xij}{MaxiXij}$

Information :
In the knowledge criteria (C5) a value of 5 is the maximum value.

$A_{15} = \frac{4}{5} = 0{,}8$ $A_{65} = \frac{4}{5} = 0{,}8$

$A_{25} = \frac{5}{5} = 1$ $A_{75} = \frac{5}{5} = 1$

$A_{35} = \frac{3}{5} = 0{,}6$ $A_{85} = \frac{2}{5} = 0.4$

$A_{45} = \frac{4}{5} = 0{,}8$ $A_{95} = \frac{5}{5} = 1$

$A_{55} = \frac{4}{5} = 0{,}8$ $A_{105} = \frac{4}{5} = 0{,}8$

c. Matrix normalization values

Then we get the Normalization Matrix Value for Each Criteria, namely:

$$X = \begin{bmatrix} C1 & C2 & C3 & C4 & C5 \\ 0{,}25 & 1 & 0{,}8 & 0{,}8 & 0{,}8 \\ 1 & 0{,}6 & 1 & 1 & 1 \\ 0{,}33 & 1 & 0{,}8 & 0{,}4 & 0{,}6 \\ 0{,}2 & 1 & 1 & 0{,}6 & 0{,}8 \\ 0{,}5 & 1 & 0{,}8 & 0{,}8 & 0{,}8 \\ 1 & 0{,}6 & 0{,}8 & 0{,}8 & 0{,}8 \\ 1 & 0{,}6 & 0{,}4 & 0{,}4 & 1 \\ 0{,}25 & 0{,}6 & 0{,}6 & 1 & 0{,}4 \\ 1 & 1 & 1 & 1 & 1{,}0 \\ 0{,}5 & 1 & 1 & 0{,}6 & 0{,}8 \end{bmatrix}$$

d. Calculating the Q Value from Normalization and Alert Weights

In making decisions using the formula, each criterion for a problem is obtained so that the weight value of the importance of each problem is obtained according to existing regulations. The overall results of matrix normalization can be seen in Table 9

Table 9. Criterion results

No	Alternatif	Criteria Name				
		C1	**C2**	**C3**	**C4**	**C5**
1	Aang Bakhtiar	0,25	1	0,8	0,8	0,8
2	Agus Mulyana	1	0,6	1	1	1
3	Agus Slamet	0,3	1	0,8	1,4	0,6
4	Mulyadih	0,2	1	1	0,6	0,8
5	Junaedi	0,5	1	0,8	0,8	0,8
6	Ninding Komara	1	0,6	0,8	0,8	0,8
7	Ade Rusyana	1	0,6	0,4	0,4	1
8	Rudi Nugraha	0,25	0,6	0,6	1	0,4
9	Hernawan	1	1	1	1	1
10	Khoerudin	0,5	1	1	0,6	0,8

Calculate the Qi value by multiplying the weight of each criterion. Table 10 is the weighted value that has been determined

Table 10. Weight

Kode kriteria	Kriteria	Atribut	Bobot	Nilai
C1	Absence	Cost	20%	0,20
C2	Work	Benefit	40%	0,40
C3	Cooperation	Benefit	10%	0,10
C4	Discipline	Benefit	10%	0,10
C5	Knowledge	Benefit	20%	0,20

Calculation formula:

$$Q = 0.5 \sum_{j=1}^{n} Xij.wj + 0.5 \prod_{j=1} (Xij)^{wj}$$

Q (Anggota 1) = (0,5*((0,25*0,20) + (1*0,40) + (0,8*0,10) + (0,8*0,10) + (0,8*0,20))) + (0,5*((0,25^0,20) + (1^0,40) + (0,8^0,10) + (0,8^0,10) + (0,8^0,20)))) = **38,5**

Q (Anggota 2) = (0,5*((1*0,20) + (0,6*0,40) + (1*0,10) + (1*0,10) + (1*0,20))) + (0,5*((1,^0,20) + (0,6^0,40) + (1^0,10) + (1^0,10) + (1^0,20)))) = **42,0**

Q (Anggota 3) = (0,5*((0,3*0,20) + (1*0,40) + (0,8*0,10) + (0,4*0,10) + (0,6*0,20))) + (0,5*((0,3^0,20) + (1^0,40) + (0,8^0,10) + (0,4^0,10) + (0,6^0,20)))) = **35,3**

Q (Anggota 4) = (0,5*((0,2*0,20) + (1*0,40) + (1*0,10) + (0,6*0,10) + (0,8*0,20))) + (0,5*((0,2^0,20) + (1,^0,40) + (1^0,10) + (0,6^0,10) + (0,8^0,20)))) =**38**

Q (Anggota 5) = (0,5*((0,5*0,20) + (1*0,40) + (0,8*0,10) + (0,8*0,10) + (0,8*0,20))) + (0,5*((0,5^0,20) + (1^0,40) + (0,8^0,10) + (0,8^0,10) + (0,8^0,20)))) =**41**

Q (Anggota 6) = (0,5*((1*0,20) + (0,6*0,40) + (0,8*0,10) + (0,8*0,10) + (0,8*0,20))) + (0,5*((1^0,20) + (0,6^0,40) + (0,8^0,10) + (0,8^0,10) + (0,8^0,20)))) = **38**

Q (Anggota 7) = (0,5*((1*0,20) + (0,6*0,40) + (0,4*0,10) + (0,4*0,10) + (1*0,20))) + (0,5*((1^0,20) + (0,6^0,40) + (0,4^0,10) + (0,4^0,10) + (1^0,20)))) = **36**

Q (Anggota 8) = (0,5*((0,25*0,20) + (0,6*0,40) + (0,6*0,10) + (1*0,10) + (0,4*0,20))) + (0,5*((0,25^0,20) + (0,6^0,40) + (0,6^0,10) + (1^0,10) + (0,4^0,20)))) = **26,5**

Q (Anggota 9) = (0,5*((1*0,20) + (1*0,40) + (1*0,10) + (1*0,10) + (1*0,20))) + (0,5*((1^0,20) + (1^0,40) + (1^0,10) + (1^0,10) + (1^0,20)))) = **50,5**

Q (Anggota 10) = (0,5*((0,5*0,20) + (1*0,40) + (1*0,10) + (0,6*0,10) + (0,8*0,20))) + (0.5*((0,5^0,20) + (1^0,40) + (1^0,10) + (0,6^0,10) + (0,8^0,20)))) = **41**

e. Results from Rankings

Based on the Q obtained from each alternative, it can be seen in Table 11 below;

Table 11. Rangking

No	Alternatif	Nilai Q	Rangking
1	Hernawan	50,5	1
2	Agus Mulyana	42	2
3	Khoerudin	41	3
4	Junaedi	41	4
5	Aang Bakhtiar	38,5	5
6	Mulyadih	38	6
7	Ninding Komara	38	7
8	Ade Suryana	36	8
9	Agus Slamet	35,3	9
10	Rudi Nugraha	26,5	10

3.2 Implementasi metode Weighted Aggregated Sum Product Assesment (WASPAS)

In this section, the results of the system design that have been built will be displayed. Following are the results of implementing the web-based alert method using PHP Native XAMPP v3.2.1 or with PHP 5.6, as follows:

a. Display from login

The Login Form is a page for system security. Where the system can only be accessed by people who have the username and password for the system, Figure 3 is from login.

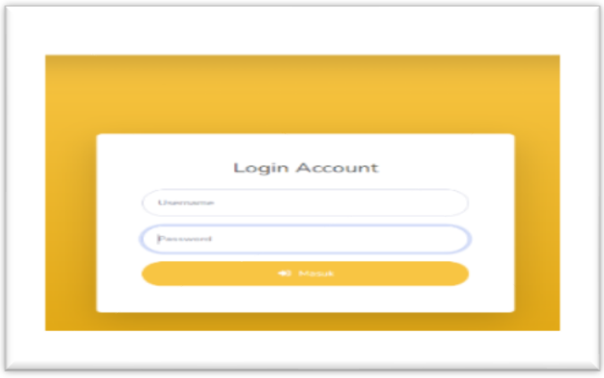


Figure 3. Login Display

b. Display fromAlternatives

The alternative form displays the data you want to input into the system, An alternative data display can be seen from Figure 4 below.

No	Nama Alternatif	C1	C2	C3	C4	C5
1	Aang Bakhtiar	4	5	4	4	4
2	Agus Mulyana	1	3	5	5	5
3	Agus Slamet	3	5	4	2	3
4	Mulyadih	5	5	5	3	4
5	Junaedi	2	5	4	4	4
6	Ninding Komara	1	3	4	4	4
7	Ade Rusyana	1	3	2	2	5
8	Rudi Nugraha	4	3	3	5	2
9	Hermawan	1	5	5	5	5
10	Khoerudin	2	5	5	3	4

Figure 4. Alternative data display

c. Display of decision matrix

The display from the calculation is a decision matrix of the Normalized Matrix Values for Each Criteria. The display of the matrix values is in Figure 5

No	Nama Alternatif	C1	C2	C3	C4	C5
1	Aang Bakhtiar	0.25	1	0.8	0.8	0.8
2	Agus Mulyana	1	0.6	1	1	1
3	Agus Slamet	0.33	1	0.8	0.4	0.6
4	Mulyadih	0.2	1	1	0.6	0.8
5	Junaedi	0.5	1	0.8	0.8	0.8
6	Ninding Komara	1	0.6	0.8	0.8	0.8
7	Ade Rusyana	1	0.6	0.4	0.4	1
8	Rudi Nugraha	0.25	0.6	0.6	1	0.4
9	Hermawan	1	1	1	1	1
10	Khoerudin	0.5	1	1	0.6	0.8

Figure 5. Normalization criteria matrix display

d. Display of Weight values

Display the weight value of the importance of each problem or criterion according to the regulations that have been determined. In figure 6 is the Weight display

C1 (Cost)	C2 (Benefit)	C3 (Benefit)	C4 (Benefit)	C5 (Benefit)
20	40	10	10	20

Figure 6. Weight Display

e. Qi Value Calculation Display

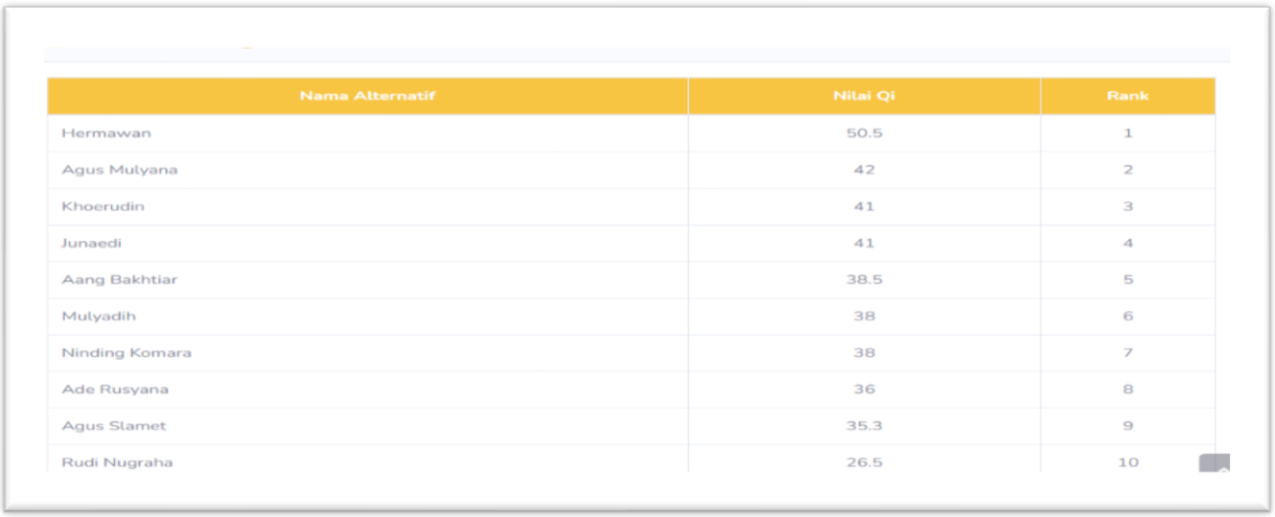
Calculating Q Values from Normalization and Alert Weights in Decision Making Using Formulas. each of the criteria that a problem has so that the results obtained from the ranking based on Q obtained for each alternative are in Figure 7 as follows:

No	Nama Alternatif	Nilai Qi
1	Aang Bakhtiar	38.5
2	Agus Mulyana	42
3	Agus Slamet	35.3
4	Mulyadih	38
5	Junaedi	41
6	Ninding Komara	38
7	Ade Rusyana	36
8	Rudi Nugraha	26.5
9	Hermawan	50.5
10	Khoerudin	41

Figure 7. Qi Value Calculation Display

f. Display the Ranking Results Form

The ranking report form display contains the results of the ranking output data produced by the WASPAS method calculation, which can be seen in Figure 8 below:



Nama Alternatif	Nilai Qi	Rank
Hermawan	50.5	1
Agus Mulyana	42	2
Khoerudin	41	3
Junaedi	41	4
Aang Bakhtiar	38.5	5
Mulyadih	38	6
Ninding Komara	38	7
Ade Rusyana	36	8
Agus Slamet	35.3	9
Rudi Nugraha	26.5	10

Figure 8. Display of Ranking Results

3.3 Comparison

At this stage, a comparison of the results of the Manual Weight Aggregated Sum Product Assessment (WASPAS) calculation is carried out with the Automatic calculation. The results of manual calculations are shown in Table 11, and automatic calculations are obtained from WASPAS DSS calculation software, as shown in Figure 8

4. CONCLUSION

From the description and discussion that has been explained above, several things can be concluded as follows: The WASPAS method performance assessment decision support system is able to provide a decision recommendation in determining member performance by determining the highest and lowest scores. The results of manual calculations using the highest alternative alert method obtained a value of 50.5 to the lowest alternative which obtained a value of 26.5, so it was concluded that the manual calculation and system were in accordance with 100% accuracy. This decision support system is able to provide fast and precise calculations and decisions with valid data. The SPK, using the WASPAS method, can provide the results of a decision to decide on one or more of several alternative honorary personnel for civil service police units that must be taken to be recommended for extending their work contracts with criteria as consideration. And to prevent the contract extension system from ending, the member who gets the lowest score must receive additional training so that the contract system is not terminated, however, if the evaluation process still gets the same performance assessment, then the contract system can be decided not to be extended. Honorary personnel from civil

service police units who have good or high grades need to be maintained and even have their performance improved through various work evaluations.

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