SUPORT SYSTEM DECISION (DSS) PRESMA ELECTIONS OF UNIKI USING SIMPLE ADDITIVE WEIGHTHING METHODE (SAW)

Nunsina[1], Cut Fadhilah[2], Kulbahri[3]

Informatics, Indonesian National Islamic Faculty, Indonesian National Islamic University, [1, 3]
Informatics, Indonesian National Islamic Faculty, Indonesian National Islamic University[2]
Email: nyak.nunun@gmail.com[1], cutfadhilahzakaria@gmail.com[2], kulbahri45@gmail.com[3]

ABSTRACT

Since minister lukman (2014-2019) and judge saifuddin (2014-2019) presented the discourse on religious censorship, the ministry of religions has continued to develop knowledge and strengthen religious censorship narratives through various digital platforms. The study focuses on the Ministry of the Republic of Indonesia's increased religious censorship on YouTube, the most popular social media platform for today's Internet users. The study draws several conclusions by combining a content analysis method with a descriptive analysis method. First, the intensity with which the YouTube channel is used to strengthen religious censorship issues needs to be increased. Only 15 (4.71%) of the 318 videos uploaded to the ministry of religion's YouTube account contain content on censorship and religious harmony. The annual frequency remained low, and there was no content on moderation and religious harmony in 2019. Second, religious censorship is still applied primarily to intellectuals who have not reached out to millennials. Its progress in eradicating negative issues related to the government's religious regulation program remains limited. Third, reaction data on censored and harmonized video content remains low, according to warganet. According to research, netizens prefer the term harmony to moderation. This suggests that the Indonesian people prefer harmony in general, but there are still some interpretations or negative impressions of the term "moderation" carried by the ministry of religions.

*Keywords: **Methode (SAW), Student presidency candidate (PRESMA), Decision-making support systems***

I.   INTRODUCTION

The advancement of information technology, particularly computer technology, is experiencing rapid growth. Although computer has become the most common definition of information technology, the truth is that information technology is a subset of the growing field of information technology (Purwati, 2015).

National Islamic University of Indonesia is a prestigious university located in Aceh's capital city of Bireuen. As a prestigious university, National Islamic University of Indonesia has a large number of students who not only study but also work in organizations. The school is modeled after a miniature country, with students serving as citizens. As a country, there is a government system in place. As a result, a miniature government system has been developed and is being used as a means of lowering the aspirations of ordinary citizens. There are a number of operational and administrative functions in the miniaturized government system. Where should people go to buy something? They should go to a store that sells things. Before selector can be sign by the The voice mail, there are a number of procedures that must be completed, beginning with the issuance of a Student number (NIM) by the government, and selector must be aware of the risks of the turn if a large number of selector arrive at the same time. The traditional way of

doing things is still relevant today, but the traditional way of doing things is still manual. There are numerous drawbacks to traditional purchasing. Some of the traditional factors that influence purchasing decisions include price, time, security, and media exposure. The election Takes a lot of time overall, as in the process of voting and ballot.

II.   LITERATURE REVIEW

A.   Algorithm

Algorithm is a logical sequence of problem solving steps arranged in a systematized manner. Algorithms are long-term logic paths that are used to solve problems (Munir, 2016). As previously stated, a problem must be resolved through a number of logical steps. In daily life, examples of algorithms can be seen in a variety of situations. One example is the activity of air consumption. The algorithm is only concerned with air-masking activities. For example, prepare a suitable pot, put water into the pot, cover the pot, put the pot on the stove, turn on the stove with medium heat, when the water boils, turn off the stove, remove the pot from the stove. This series of steps is the algorithm for the activity of boiling water. Because of the clear instructions, the following steps are a logical process (Sembiring, 2018).

B. Simple Additive Weighting (SAW)

According to (Nofriansyah, 2014), simple additive weighting (SAW) is a method for presenting weighted sums from each branch based on its weighting criterion. The simple additive weighting method in its work requires various alternative assessments such as; requires weights for various assessment criteria, normalization and ranking stages. To normalize the performance branch from alternative Ai on attribute Cj, use the following:

$$r_{ij} = \begin{cases} \dfrac{x_i}{\max x_{ij}} & \text{digunakan yaitu jika j adalah atribut (keuntungan)} \\[2em] \dfrac{\min x_{ij}}{x_i} & \text{digunakan yaitu jika j adalah atribut dari (biaya)} \end{cases}$$

correspondence:

r_{ij} = ranting kinerja ternormalisasi dari alternatif A_i pada atribut C_j

i = 1,2....m

j = 1,2 ....n

$$V_i = \sum_{j}^{n} = 1 \, W_j r_{ij}$$

correspondence:
Vi = preferensi setiap alternatif

W = Vektor bobot

r = Ranting kinerja ternormalisasi.

C. Decision Support

Decision support systems (DSS), also known as Decision support systems, is a software-based system that assists managers in problem solving by providing access to a large amount of data derived from various information systems used in business processes, such as office automation, transaction processing, and so on (Nofriansyah, 2014).

III.   RESEARCH AND METHODOLOGY

The following section explains the entire process of a working system to select a top university candidate. Thinking Framework According to (Sugiyono, 2019), the methodology is a conceptual model of how theory interacts with various factors that have been identified as important problems.
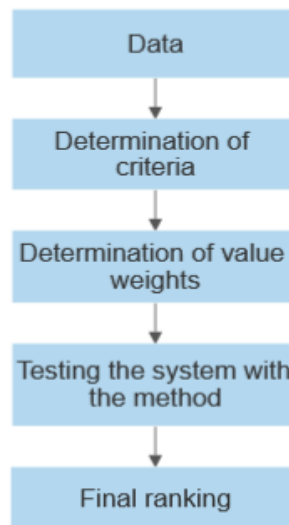
Picture 1. Framework of thinking

A. Method Analysis SAW

Grand lipah, determining beneficiaries of subsidized housing mortgages in public housing, solves this problem using the Simple Additive Weighting method. Several steps are required to complete the verification process in order to obtain the best alternative. These steps are as follows:

1. Identify the criteria that will be used to determine the outcome of the case, namely Ci.
2. Provide a rating for each alternative on each criterion.
3. Make a decision based on criteria (Ci), then normalize the decision based on similarities (attributes of profit or cost) so that R is produced.

The final result of the ranking process is a larger number of multiplication matrices that have been normalized with a vector weight, resulting in a larger number selected as the best alternative (Ai) as a solution.

B. Criteria And Quality

Table 1. Assessment Criteria

Criteria	Description	Quality
C1	Organization activity	90
C2	achievements	75
C3	personality	70
C4	adoration	55
C5	vision	50

From this criterion, a specific benefit of the criterion is determined based on the number of weights that have been determined during the twig compatibility of each alternative on the criterion of employment, advancement, creditworthiness, residence status, and cash based on the criterion's monetary value. the weight with a high number is given to the most important criterion, among others.

C. Parameter

Parameter Based on the length of time spent in the decision support system for selecting the president and vice president, a parameter that is used here is based on the following criteria:

Table 2. Parameter weight

No	Parameter	quality
1	Very high (ST)	7
2	higher (T)	5
3	enough (C)	3
4	low (R)	2
5	Very low (SR)	1

Match rating for each alternative on each criteria is as follows:
description :   Very high (ST)   = 7
                higher (T)   = 5
                enough (C)   = 3
                low (R)   = 2
                very low (SR)   = 1

D. Valuation By The Hand-Saw Method

Based on the above election and associated value table, the value of the match rating of any alternative to any criteria that would be counted by the saw method can be seen at table 3.13.
  a. Made an alternative decision chart that will be examined as many as three alternatives:

Table 3. Alternatif criteria

Alternatif	Criteria				
	C1	C2	C3	C4	C5
A-1	5	3	7	3	4
A-2	7	1	1	3	7
A-3	2	7	5	7	5

Because each value offered on each alternative in each criterion is a value match (the largest value is the best value), each criterion offered is classified as a monetary criterion.

  b. Creating a Decision Matrix
Finally, make a decision based on criteria, then normalize the decision based on similarity to a specific attribute, resulting in an R-valued decision.

$$X = \begin{bmatrix} 5 & 3 & 7 & 3 & 4 \\ 7 & 1 & 1 & 3 & 7 \\ 2 & 7 & 5 & 7 & 5 \end{bmatrix}$$

  c. Normalizing of the mattresses the decision to get a normalized R based on a formula:

$$r_{ij} = \frac{x_i}{max_{ij}} = \text{For the attribute of profit} \quad \dots\dots\dots\dots\dots\dots(1)$$

$$r\text{ij} = \frac{xiij}{xi} = \quad \text{For cost attributes} \quad \text{.........................(2)}$$

a) Normalize the organization's intrinsic criteria

$$r1 = \frac{5}{max[5;7;2]} = \frac{5}{7} = 0,7$$

$$r2 = \frac{7}{max[5;7;2]} = \frac{7}{7} = 1$$

$$r3 = \frac{2}{max[5;7;2]} = \frac{2}{7} = 0,2$$

b) Normalize achievement criteria

$$r1 = \frac{3}{max[3;1;7]} = \frac{3}{7} = 0,4$$

$$r2 = \frac{1}{max[3;1;7]} = \frac{1}{7} = 0,1$$

$$r3 = \frac{7}{max[3;1;7]} = \frac{7}{7} = 1$$

c) Normalize personality criteria

$$r1 = \frac{7}{max[7;1;5]} = \frac{7}{7} = 1$$

$$r2 = \frac{1}{max[7;1;5]} = \frac{1}{7} = 0,1$$

$$r3 = \frac{5}{max[7;1;5]} = \frac{5}{7} = 0,7$$

d) Normalize the criteria of adoration

$$r1 = \frac{3}{max[3;3;7]} = \frac{3}{7} = 0,4$$

$$r2 = \frac{3}{max[3;3;7]} = \frac{3}{7} = 0,4$$

$$r3 = \frac{7}{max[3;3;7]} = \frac{7}{7} = 1$$

e) Normalize vision and mission criteria

$$r1 = \frac{4}{max[4;7;5]} = \frac{4}{7} = 0,5$$

$$r2 = \frac{7}{max[4;7;5]} = \frac{7}{7} = 1$$

$$r3 = \frac{5}{max[4;7;5]} = \frac{5}{7} = 0,7$$

d. Normalized R. Matrik

Calculations for the normalization of r continued down to the 9th alternative and found that the results of r normalization matrix were as follows:

$$R = \begin{bmatrix} 0.7 & 0.4 & 1 & 0.4 & 0.5 \\ 1 & 0.1 & 0.1 & 0.4 & 1 \\ 0.2 & 1 & 0.7 & 1 & 0.7 \end{bmatrix}$$

e. searching for a matrix of weighted adjudications based on equations:

$$V_i = \sum_{j=1}^{n} w_j r_{ij}.$$

The decision maker gives a weight of preference as: w = (90, 75, 70, 55, 50) after that perform a stretching process for any alternative where the calculations are as follows:

$A_1 = (90)(0.7) + (75)(0.4) + (70)(1) + (55)(0.4) + (50)(0.5) = 210$

$A_2 = (90)(1) + (75)(0.1) + (70)(0.1) + (55)(0.4) + (50)(1) = 176$

$A_3 = (90)(0.2) + (75)(1) + (70)(0.7) + (55)(1) + (50)(0.7) = 2332$

## IV.   RESULT AND DISCUSSION

The current study yielded a ranking based on parameter calculations, with the parameter values derived from the system's existing criteria. Although the data is being collected in this system, it is only being used to determine the Student President of the Indonesian National Islamic University. As a result, the purpose of this research is to improve the efficiency of the process. Preventive maintenance has been implemented in the system in order to simplify and achieve more transparent results.

a. System Debugging Process

To learn about system debugging and system handling before using the system on the desired object, the author performs system debugging by entering data into the system. Login page testing, alternative page testing, criteria data page testing, parameter page testing, assessment page testing, and ranking page testing are carried out at this stage.

b. Control Panel page

The dashboard is the primary view that will be visible when the app is launched. Provides multiple menu views for inputting data that can be managed in setting presma on the dashboard. The form of the dashboard interface page display as shown below:
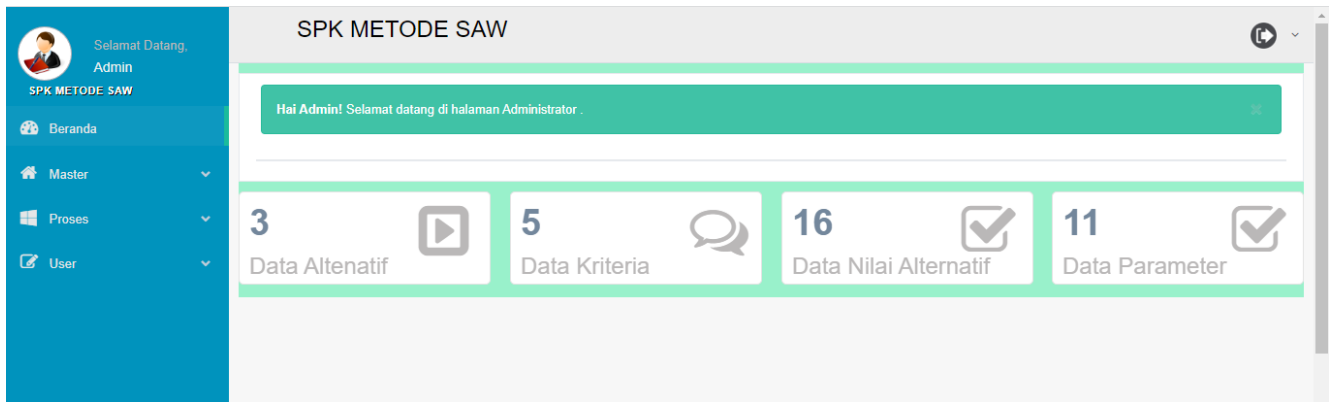
Picture 2. Dashboard

c. The Alternate Inputs page

The alternative menu is a page for entering biodata for one student who is running for presma member. The only data entered at this location is from each student's faculty. This will increase the number of candidates from each faculty. Change the layout of the interface's alternative menu, as shown.
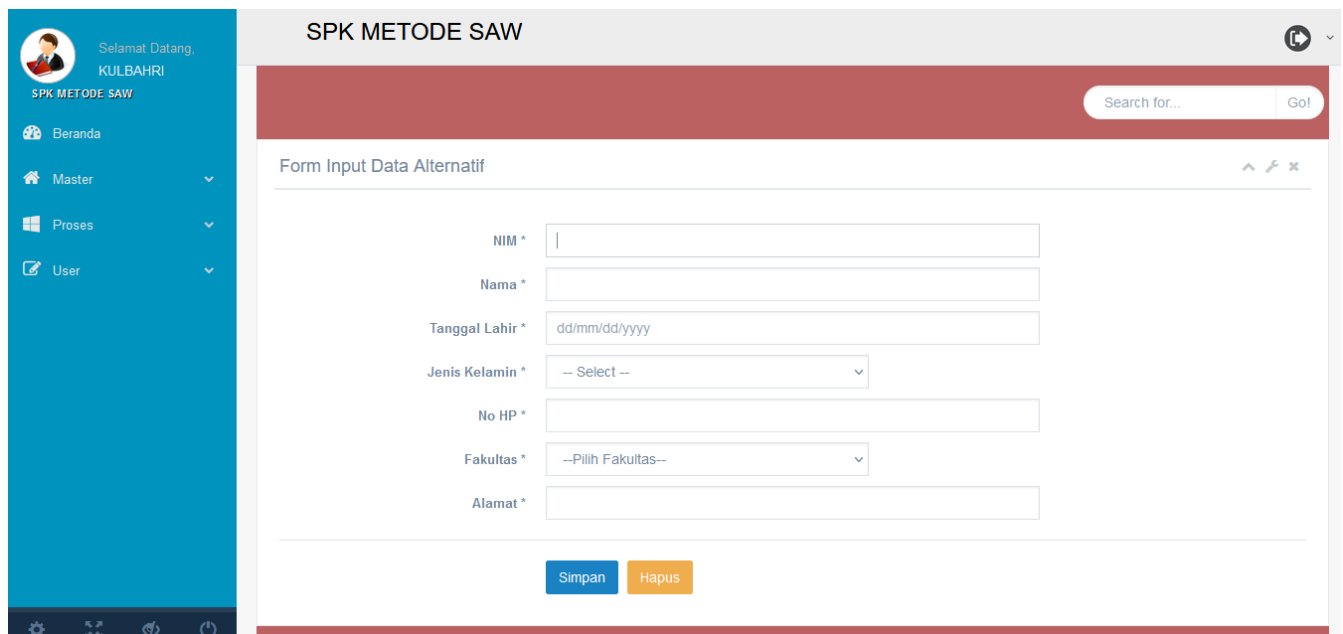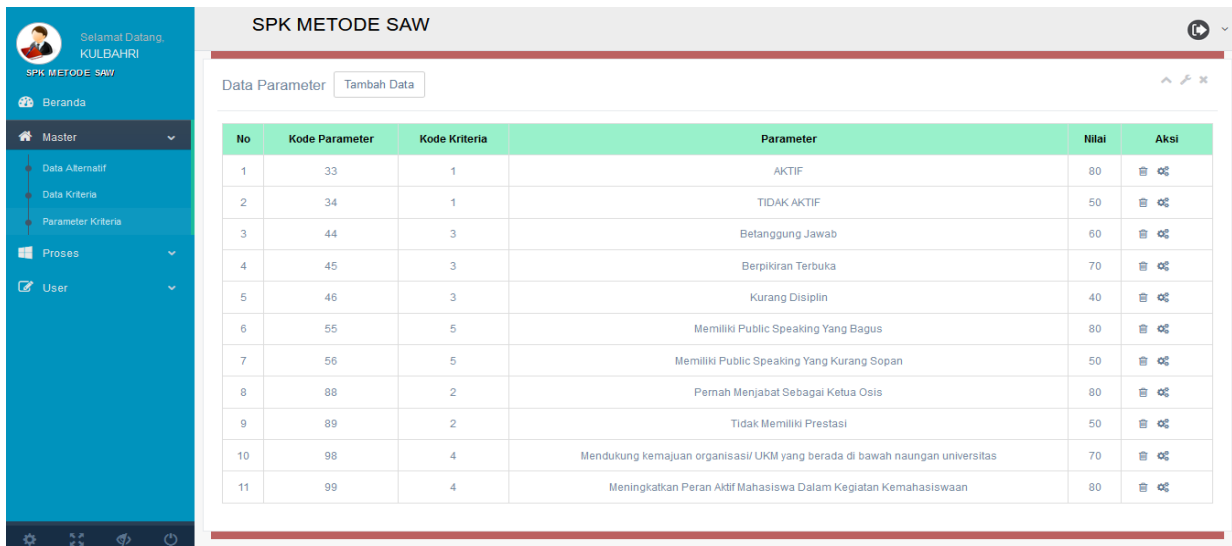

Picture 3. Input Alternatif

d. Input Criteria page

The Criteria input display is carried out for the input process Criteria Names and their weight values. There are five options for criteria that are provided (table 1. criteria and assessment). Each criterion has a bot that has already been defined, and the input of the criterion's name will result in a number that can be calculated as an parameter reference.
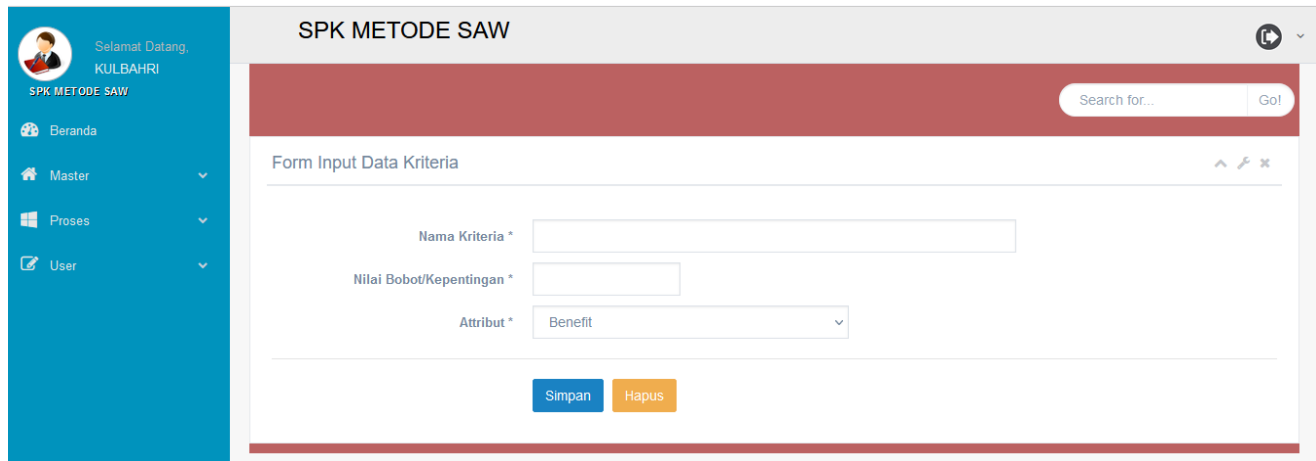
Picture 4. Criteria input

e. Parameter Criteria Page

Page Parameters The criteria are the data menus found in the Master selection. Because there are three options, each menu must be entered more than once to properly process the data. The alternative data, data criterion, and the final criterion parameter are all examples. Listed below are the parameters that should be used:

No	Kode Parameter	Kode Kriteria	Parameter	Nilai	Aksi
1	33	1	AKTIF	80	
2	34	1	TIDAK AKTIF	50	
3	44	3	Betanggung Jawab	60	
4	45	3	Berpikiran Terbuka	70	
5	46	3	Kurang Disiplin	40	
6	55	5	Memiliki Public Speaking Yang Bagus	80	
7	56	5	Memiliki Public Speaking Yang Kurang Sopan	50	
8	88	2	Pernah Menjabat Sebagai Ketua Osis	80	
9	89	2	Tidak Memiliki Prestasi	50	
10	98	4	Mendukung kemajuan organisasi/ UKM yang berada di bawah naungan universitas	70	
11	99	4	Meningkatkan Peran Aktif Mahasiswa Dalam Kegiatan Kemahasiswaan	80	

Picture 5. Parameter Data Display

f.   Alternate Page Data Value

Data storage is a by-product of the Presma development process. There are two options on the menu, one of which is an alternate route with a different ending time. There is now a process of accelerating the growth of weights based on the criteria that have been established.

Picture 6. Parameter Data Display

g.   Alternate Page Ranking Data

Page Rank Data is the end of the process in determining the presma. Following the completion of the weighting criterion, the highest ranking candidate will be selected as the first and second in line. On this page it is clear that the name "kulbari" is a candidate for presma that the system chooses to become presma.

Picture 7. Parameter Data Display

V.   CONCLUSION

After completing the test system by accelerating the decision support (SAW) process during the prospective university presma selection process, it can be demonstrated that it can be used to the greatest extent possible. The system works quickly and reliably by meeting the bot criteria that have been established. This clearly shows that the process of telephoning becomes more efficient with system maintenance.

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About the Author

The author of this journal has a background in different fields of science, but with the same field of knowledge where the knowledge expert for the first author has expertise in the field of Robotics, and the second author has expertise in the field of data analysis and system development. Meanwhile, the author is concentrating his efforts on the expert system (artificial Intelligence). Because of the various types of knowledge that each author possesses, the journal's collaborative writing process can proceed as planned.