

APPLICATION OF DECISION SUPPORT SYSTEM WITH SIMPLE ADDITIVE WEIGHTING METHOD TO DETERMINE STUDENT ACHIEVEMENTS AT SMA MAHATMA GADING JAKARTA

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Abstract

This study aims to determine outstanding students using a decision support system with the simple additive weighting method at SMA Mahatma Gading Jakarta. The research method used is descriptive qualitative, data collection with interviews, literature analysis and questionnaires. The calculation stages with the simple additive weight method consist of identifying criteria, normalization, weighting criteria and calculating final scores with four assessment criteria for outstanding students, namely academic grades, attendance, attitudes and non-academics. The results of the analysis obtained that the implementation of the decision support system with the simple additive weighting method ran well, indicated by giving a ranking to each alternative in determining outstanding students by looking at the ranking process carried out with the highest score results. The final result of the 3 (three) best rankings, namely Ardiansa Martawijaya got the first rank with a score of 0.921, then Revan Sahal got the second rank with a score of 0.902 and the third rank was a student named Owen Cornelius with a score of 0.893.

Keywords	Information Correspondence
Method, Students, Results	Maria Korsini
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INTRODUCTION

The quality of education is characterized by effective and efficient operational implementation in order to meet service standards for students and the community, but to measure student achievement must meet good assessment standards. Education assessment standards are national education standards related to the mechanisms, procedures, and instruments for assessing student learning outcomes.(Government, 2005). The importance of grades in determining student achievement makes this assessment a key component in the education process. Education actively and systematically strives to create a conducive learning environment so that students can develop their potential. This goal is in line with the vision of national education which includes graduate gualifications and competencies as an integral part of qualification standards. Therefore, determining student achievement requires the involvement of various aspects ranging from knowledge, skills, to attitudes. The problem faced in this context is determining student achievement with objective and comprehensive considerations, including academic grades, attendance, attitudes, and non-academics. This requires an accurate, consistent, and efficient assessment method.

In order to solve this problem, the researcher implemented a Decision Support System (DSS) with the Simple Additive Weighting (SAW) method. A decision support system is a computer-based information system to produce an alternative decision for both structured and unstructured problems.(Mesran, 2020). From the various alternative decisions that emerge, the best ranking of students who excel can be identified. SPK is categorized as an intelligent system for decision making on existing problems in education and accounting and other policies.(Charisma, 2021) (Sry Yunarti & Moeis, 2022)(Irawan, 2020).

. In this era, progress is marked by the emergence of the latest software and hardware that can facilitate human work, along with the increasing knowledge and expertise of users in creating intelligent systems to determine the best rankings and scores for outstanding students. Intelligent systems are computer systems that use artificial intelligence technology to perform tasks that usually require human ability to understand and process information and make decisions based on the results of information processing.(Grosan and Abraham in Wayan FM, 2023). Intelligent decision support systems provide added value to users because they can make it



SEAN INSTITUTE VOL : 1 No: 2 TAHUN 2023 E-ISSN: 2988-6910

easier for users to determine high-achieving students at school. The use of the SAW method was chosen because of its accuracy in determining the best choice based on the weighted sum of the performance ratings of each alternative in all attributes. This method has a basic principle, namely finding the weighted sum of the normalized performance ratings (R) on each alternative on all attribute weights (W) and requires a matrix normalization process to a scale that can be compared with all existing alternative ratings ((Fishburn and Mac Crimmon in M Harry KP, 2020).

From the description above, this study only focuses on the application of a decision support system with the simple additive weighting method to determine the best ranked students at Mahatma Gading High School to be more accurate and effective in decision making.

METHOD

The method used in this study is using descriptive qualitative using a simple additive weighting approach. Qualitative research looks at the natural setting, interprets the phenomena that occur and is carried out by involving existing methods. (Setiawan, 2018), then the researcher describes an object, phenomenon, which is expressed in narrative form.

The stages in this research are as follows: First, the initial stage of the process is problem identification, which involves the process of collecting information, evaluating and understanding data with the aim of identifying problems or challenges in a situation or condition.(Wiratama et al., 2022) (Oktaviana et al., 2022).

Second, conducting library research or literature research, namely collecting, evaluating and analyzing documents or sources related to the topic in order to deepen understanding of the topic being studied. The purpose of literature research is to understand previous research or relevant information and to assess knowledge gaps in the field. Third, Data collection, The process of collecting data using various techniques and methods of data collection such as interviews, questionnaires, observations or recording depending on the needs and objectives of the study. Data collection aims to obtain accurate and relevant information for analysis or decision making purposes. Fourth, Analyzing and applying the methods used, in this study using the SAW method to determine students who excel by implementing a decision support system to test data samples in this study.

Next, the flowchart of the SAW method can be seen in the image below.

Application of Decision Support System with Simple Additive Weighting Method to Determine Student Achievement at SMA Mahatma Gading Jarkata, Maria Korsini et.al





Figure 1. Flowchart of the Simple Additive Weighting Method

The explanation of the flowchart diagram above is the input of criteria data and decision alternatives along with the criteria weight values and values for each decision alternative. In this step, where all the data needed must be entered into the decision support system, namely A. the criteria used, the available decision alternatives, the criteria weights, and the values for each decision alternative. B, If the total weight is equal to 100 then it can be continued to the calculation if not then re-input the benefit and cost weighting data. C. Normalize each criterion by changing the data scale for each criterion to the same scale. D. Calculate the preference value for each alternative by adding the results of multiplying the criteria weights by the criteria values for each alternative. E. Sort the alternatives based on the highest preference value and display the alternative ranking results.

RESULTS AND DISCUSSION

Manual calculations using the Simple Additive Weighting method, namely determining the criteria and weights, normalizing performance weights, displaying alternative data, normalization results and ranking results, then applied with a decision support system as follows.

Simple additive weighting method Determining criteria and weights

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SEAN INSTITUTE VOL : 1 No: 2 TAHUN 2023 E-ISSN: 2988-6910

This study uses 4 assessment criteria in determining students who excel, namely: academic value, attendance, attitude and non-academic. This stage is to determine the criteria and weight of each criterion given and based on its importance. The appearance can be seen in table 1.

Criteria	Weight	Туре
Criteria Value	40	Benefits
Presence	20	Benefits
attitude	10	cost
Non-Academic	30	Benefits

Table 1. Determine the criteria and weight

b. Normalization of Criteria Weights

After the weighting of each criterion is done, the next step is to normalize each criterion. The appearance can be seen in table 2.

Criteria Value	40/100	0.4
Presence	20/100	0.2
attitude	10/100	0.1
Non-Academic	30/100	0.3

Table 2. Normalization of criteria weights

c. SAW Alternative Data View

This section will discuss the stages and processes of the SAW (Simple Additive Weighting) method in determining outstanding students at SMA Mahatma Gading Jakarta. The data display can be seen in table 3.

Table 3. SAW Value Data Display

	Academic			Non-
Criteria	Values	Presence	Attitude	Academic
Anggi Misah	83	80	4	76
Ardiansa				
Martawidjaja	95	90	5	80
Caitlin Santas	90	70	3	70
Revan Syahal	90	76	5	90
Kevin N. Tan	80	75	5	81
Allysa Amelia	85	70	3	70
Inggie Kwee	85	72	4	92
Callista Nathania	82	75	4	90

Application of Decision Support System with Simple Additive Weighting Method to Determine Student Achievement at SMA Mahatma Gading Jarkata, Maria Korsini et.al



Alexio C. Vandana	80	70	5	70
Vanessa M. Sutanto	80	70	5	80
Owen Cornelius	80	85	4	90
Total	930	833	47	889
Total Max	930 95	833 90	47 5	889 92

d. Normalization Results

This section will display the normalization results of the above value data. The display of the normalized data can be seen in table 4.

	Academic			Non-
Alternative	Values	Presence	Attitude	Academic
Anggi Misah	0.873684211	0.888889	0.8	0.82608696
Ardiansa				
Martawidjaja	1	1	1	0.86956522
Caitlin Santas	0.947368421	0.777778	0.6	0.76086957
Revan Syahal	0.947368421	0.844444	1	0.97826087
Kevin N. Tan	0.842105263	0.833333	1	0.88043478
Allysa Amelia	0.894736842	0.777778	0.6	0.76086957
Inggie Kwee	0.894736842	0.8	0.8	1
Callista Nathania	0.863157895	0.833333	0.8	0.97826087
Alexio C. Vandana	0.842105263	0.777778	1	0.76086957
Vanessa M. Sutanto	0.842105263	0.777778	1	0.86956522
Owen Cornelius	0.842105263	0.944444	0.8	0.97826087

Table 4. Normalization Result Display

e. SAW Results and Ranking Display

This section will display the results and rankings obtained by the alternatives where the normalized value is multiplied by the weight value. The appearance can be seen below.

Anggi Misah

 $= (0.873684211^{*}0,4) + (0.8888889^{*}0.02) + (0.8^{*}0.1) + (0.82608696^{*}0,)$

= 0.855077549

Ardiansa Martawidjaja

= (1*0,4)+(1*0.2)+(1*0.1)+(0.86956522*0.3)

= 0.960869565

Caitlin Santas

= (0.947368421*0.4)+(0.777778*0.2)+(0.6*0.1)+(0.76086957*0.3)

= 0.822763794

Revan Syahal

= 0.941314518



Kevin N. Tan = (0.842105263*0.4) + (0.833333*0.2) + (1*0.1) + (0.88043478*0.3)= 0.867639207Allvsa Amelia = (0.894736842*0.4) + (0.777778*0.2) + (0.6*0.1) + (0.76086957*0.4)=0.801711162 Inggie Kwee $= (0.894736842^{*}0.4) + (0.8^{*}0.2) + (0.8^{*}0.1) + (1^{*}0.3)$ = 0.897894737Callista Nathania = (0.863157895*0.4) + (0.833333*0.2) + (0.8*0.1) + (0.97826087*0.3)= 0.885408085Alexio C. Vandana =(0.842105263*0.4)+(0.777778*0.3)+(1*0.1)+(0.76086957*0.3)=0.82065853 Vanessa M. Sutanto =(0.842105263*0.4)+(0.777778*0.2)+(1*0.1)+(0.86956522*0.3)= 0.853267226**Owen Cornelius** = (0.842105263*0.4) + (0.944444*0.2) + (0.8*0.1) + (0.97826087*0.3)= 0.899209255

So students who excel are students who have maximum results based on existing criteria. So the student named Ardiansa Martawidjaja is an outstanding student at SMA Mahatma Gading Jakarta.

0.855077549	7
0.960869565	1
0.822763794	9
0.941314518	2
0.867639207	6
0.801711162	11
0.897894737	4
0.885408085	5
0.82065853	10
0.853267226	8
0.899209255	3
	0.855077549 0.960869565 0.822763794 0.941314518 0.867639207 0.801711162 0.897894737 0.885408085 0.82065853 0.82065853 0.853267226

 Table 5. SAW Results and Ranking Display

2. Decision Support System

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a. Menu Screen View

After the user has clicked the login button on the initial display, the user will automatically enter the decision support system menu section. This menu section consists of several menus such as student data, criteria weights, SAW calculations and final results.



Figure 2.Menu Screen View

b. Student Data Screen View

This student data screen display is a display of student data, this student data is in the data processing menu. In this menu, you can enter, change and delete student data.

Mahatma				· · · · · · · · · · · · · · · · · · ·
Manathia	Gading			
	0	oata Siswa		
NO.IND	Kelas		Alamat	
	Jania Kala		-	
Nama	Jenis Kela	min (Laki-Laki		
	Simpan Ubah Hapu	IS		
NO.IND	Simpan Ubah Hapu Nama	Kelas	Jenis Kelamin	Alamat
NO.IND 0800	Simpan Ubah Hapu Nama Calista Nathania	Kelas XII IPS	Jenis Ketamin Perempuan	Alamat Jakarta
NO.IND 0800 0881	Simpan Ubah Hapu Nama Calista Nathania Vanessa M. Sutanto	Kelas XII IPS XII IPA	Jenis Kelamin Perempuan Perempuan	Alamat Jakarta Jakarta
NO.IND 0800 0881 0882	Simpan Ubah Hapu Nama Calista Nathania Vanessa M. Sutanto Alexio M. Vandana	Kelas XII IPS XII IPA XII IPA	Jenis Kelamin Perempuan Perempuan Laki-Laki	Alamat Jakarta Jakarta
NO.IND 0800 0881 0882 0891	Simpan Ubah Hapu Nama Calista Nathania Vanésa M. Sutanto Akwi M. Vandana Kéwi N. Tan	Kelas XII IPS XII IPA XII IPA XII IPS	Jenis Kelamin Perempuan Perempuan Laki-Laki Laki-Laki	Alamat Jakarta Jakarta Jakarta Jakarta
NO.IND 0800 0881 0882 0891 0892	Simpan Ubah Hapu Nama Calista Nathania Vanesa M. Sutanto Avoiro M. Yandana Kevin N. Tan Ardiana Matavidaja	IS Kelas XII IPS XII IPA XII IPA XII IPA XII IPA	Jenis Kelamin Perempuan Laki-Laki Laki-Laki Laki-Laki	Alamat Jakarta Jakarta Jakarta Jakarta Jakarta
NO.IND 0800 0881 0882 0891 0892 0893	Simpan Ubah Hapu Nama Calista Nathania Vanesa M. Sutanto Aexio M. Yandana Kevin N. Tan Ardiana Matawidaja Over Cornelius	Kelas XII IPS XII IPA XII IPA XII IPA XII IPA XII IPA	Jenis Kelamin Perempuan Laki-Laki Laki-Laki Laki-Laki Laki-Laki	Alamat Jakarta Jakarta Jakarta Jakarta Jakarta Jakarta
NO.IND 0800 0881 0882 0891 0893 0893 0893	Simpan Ubah Hapu Nama Calista Nahania Varesa M. Sutanto Krivin N. Tan Ardiona Martawidaja Oven Comelius Anggi Misah	IS Kelas XIII IPS XIII IPA XIII IPA XIII IPA XIII IPA XIII IPA	Jenis Kelamin Perempuan Laki-Laki Laki-Laki Laki-Laki Laki-Laki Perempuan	Alamat Jakarta Jakarta Jakarta Jakarta Jakarta Jakarta Jakarta
NO.IND 0800 0881 0882 0891 0892 0893 0897 0897	Simpan Ubah Hapu Nama Calista Nathania Vanessa M. Sutanto Avario M. Yandana Kevin N. Tan- Mana Owen Comellus Anggi Misan Calin Santasa	Kelas XIIIPS XIIIPA XIIIPA XIIIPA XIIIPA XIIIPA XIIIPA XIIIPA	Jenis Kelamin Perempuan Laki-Laki Laki-Laki Laki-Laki Laki-Laki Perempuan Perempuan	Alamat Jakanta Jakanta Jakanta Jakanta Jakanta Jakanta Jakanta
NO.IND 0800 0881 0882 0891 0892 0893 0893 0899 0899	Simpan Ubah Hapu Calista Nathania Variesa M. Sutanto Arexis M. Sutanto Arexis M. Yanan Arexis M. Yanan Arexis Manah Arexis Manah Anga Maah Calin Santasa Ayaa Amala	Ketas XIIIPS XIIIPS XIIIPA XIIIPA XIIIPA XIIIPA XIIIPA XIIIPA	Jenis Kelamin Perempuan Lask-Lask Lask-Lask Lask-Lask Lask-Lask Perempuan Perempuan	Alamat Jokarta Jokarta Jokarta Jokarta Jokarta Jokarta Jokarta Jokarta

Figure 3. Student Data Screen View

c. Criteria Screen Display

After the student data, the user will fill in the criteria data. This is a display of the criteria data, in this display the user can enter criteria data in determining outstanding students according to their respective criteria.



Mahatma Gading Kriteria	Kr Bobot	Jenis <u>Pilih </u>	Tambah
Data Kriteria	Bohot	lanis	Proces
Nilai Akademik Kehadiran Sikap	40 20 10	Benefit Cost	Hapus
Total Bobot 100.0			
Kriteria	Data Kriteria Yang Suc	Jenis	Bersihl

Figure 4. Criteria Data Screen View

d. SAW Counter Data Screen Display

In the saw calculation data section, users can directly input values to start comparing several students according to the criteria that have been entered.

-					- 0	×
	SMA Mahatma	Gading			Kelua	ur I
		Pe	enghitungan SAW			
	NO.IND	C	ari Kriteria	PILIH 🔻	Tambah	
	Nama		Nilai	Jenis	Hapus	
	Simpan					
	No.IND	NAMA	Kriteria	Nilai	Jenis	

Figure 5. SAW Calculation Data Screen Display

e. Final Result Screen Data View

After inputting the value, the final result and ranking in this menu by clicking the calculate button. After the calculate button is clicked, the table will display the results of the final value.



	SMA Mah	atma Gading		HASIL A	KHIR				Keluar
bersihkan da	ita 🛛	Hapus		Hitung	Reset				
Nama	Nilai Aka	ad Kehadiran	Sikap	Non A kad	Nama	Nilai Akad	Kehadiran	Sikap	Non A kad
Caitin Sant	90.0	70.0	3.0	70.0	Caitin Sant	0.95	0.78	1	0.76
Owen Cor	80.0	85.0	4.0	90.0	Owen Cor	0.84	0.94	0.75	0.98
Anggi Misah	83.0	80.0	4.0	76.0	Anggi Misah	0.87	0.89	0.75	0.83
Revan Sya	90.0	76.0	5.0	90.0	Revan Sya	0.95	0.84	0.6	0.98
Alexio M. V	80.0	70.0	5.0	70.0	Alexio M. V	0.84	0.78	0.6	0.76
Calista Na	82.0	75.0	4.0	90.0	Calista Na	0.86	0.83	0.75	0.98
Ardiansa	95.0	90.0	5.0	80.0	Ardiansa	1	1	0.6	0.87
Vanessa	80.0	70.0	5.0	80.0	Vanessa	0.84	0.78	0.6	0.87
Kevin N. Tan	80.0	75.0	5.0	81.0	Kevin N. Tan	0.84	0.83	0.6	0.88
				and the second se				2000	
Alysa Amal	85.0	70.0	3.0	70.0	Alysa Amal	0.89	0.78	1	0.76
Alysa Amal Inggi Kwee	85.0 85.0	70.0 72.0	3.0 4.0	70.0 92.0	Alysa Amal Inggi Kwee	0.89 0.89	0.78	1 0.75	0.76
Alysa Amal Inggi Kwee	85.0 85.0	70.0 72.0	3.0 4.0	70.0 92.0 Hasil Akhir dan I	Alysa Amal Inggi Kwee Peringkat	0.89	0.78	1 0.75	0.76 1 Cetak Hasil Akhi
Alysa Amal Inggi Kwee Nama	85.0 85.0	70.0 72.0 Nilai Akademik	3.0 4.0 Kehadiran	70.0 92.0 Hasil Akhir dan I	Alysa Amal Inggi Kwee Peringkat Non A ka	0.89 0.89 ademik	0.78 0.8 Nilai Akhir	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat
Alysa Amal Inggi Kwee Nama Ardiansa Marf	85.0 85.0	70.0 72.0 Nilai Akademik 0.4	3.0 4.0 Kehadiran 0.2	70.0 92.0 Hasil Akhir dan I	Alysa Amal Inggi Kwee Peringkat Non A ka 0.261	0.89 0.89 ademik	0.78 0.8 Nilai Akhir 0.921	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1
Alysa Amal Inggi Kwee Nama Ardiansa Mart Revan Syahal	85.0 85.0 tawid	70.0 72.0 Nilai Akademik 0.4 0.38	3.0 4.0 Kehadiran 0.2 0.168	70.0 92.0 Hasil Akhir dan I 1 Sikap 0.06 0.06	Alysa Amal Inggi Kwee Peringkat Non A ka 0.261 0.294	0.89 0.89 ademik	0.78 0.8 Nilai Akhir 0.921 0.902	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 2
Alysa Amal Inggi Kwee Nama Ardiansa Marf Revan Syahal Owen Corneli	85.0 85.0 tawid	70.0 72.0 Nilai Akademik 0.4 0.38 0.336	3.0 4.0 Kehadiran 0.2 0.168 0.188	70.0 92.0 Hasil Akhir dan I Sikap 0.06 0.06 0.075	Alysa Amal Inggi Kwee Peringkat Non A ka 0.261 0.294	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3
Alysa Amal Inggi Kwee Nama Ardiansa Marf Revan Syahal Owen Corneli Inggi Kwee	85.0 85.0 tawid	70.0 72.0 Nilai Akademik 0.4 0.38 0.336 0.356	3.0 4.0 Kehadiran 0.2 0.168 0.188 0.16	70.0 92.0 Hasil Akhir dan I N Sikap 0.06 0.06 0.075 0.075	Alysa Amal Inggi Kwee Peringkat 0.261 0.294 0.3	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3 4
Alysa Amal Inggi Kwee Nama Ardiansa Mart Revan Syahal Owen Corneli Inggi Kwee Calista Natha	85.0 85.0 tawid ius	70.0 72.0 Nillai Akademik 0.4 0.38 0.336 0.356 0.356 0.344	3.0 4.0 0.2 0.168 0.18 0.166	70.0 92.0 Hasil Akhir dan I 0.06 0.075 0.075 0.075	Alysa Amal Inggi Kwee Peringkat 0.261 0.294 0.3 0.294	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891 0.879	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3 4 5
Alysa Amal Inggi Kwee Ardiansa Mart Revan Syahal Owen Corneli Inggi Kwee Calista Natha Calita Santas	85.0 85.0 tawid ius ania	70.0 72.0 Nilai Akademik 0.4 0.38 0.336 0.336 0.356 0.344 0.38	3.0 4.0 Kehadiran 0.2 0.168 0.188 0.166 0.156	70.0 92.0 Hasil Akhir dan I Sikap 0.06 0.06 0.075 0.075 0.075 0.075 0.1	Alysa Amal Inggi Kwee Peringkat 0.281 0.294 0.3 0.294 0.3 0.294 0.23	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891 0.879 0.864	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3 4 5 6
Alysa Amal Inggi Kwee Nama Ardiansa Mart Revan Syahal Owen Corneli Inggi Kwee Calista Natha Calitin Satha Anggi Misah	85.0 85.0 tawid I ius inia ia	70.0 72.0 Nilai Akademik 0.4 0.38 0.336 0.356 0.344 0.38 0.344 0.38 0.346	3.0 4.0 Kehadiran 0.2 0.168 0.168 0.166 0.166 0.156 0.178	70.0 92.0 Hasil Akhir dan I 92.0 0.06 0.06 0.06 0.075 0.075 0.1 0.075	Alysa Amal Inggi Kwee Peringkat 0.261 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.249	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891 0.879 0.864 0.85	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3 4 5 6 7
Alysa Amal Inggi Kwee Ardiansa Mart Revan Syahal Owen Corneli Inggi Kwee Calista Natha Cailta Natha Cailta Natha Anggi Misah Alysa Amalia	85.0 85.0 tawid tawid tawid tawid tawid	70.0 72.0 Nillai Akademik 0.4 0.38 0.336 0.336 0.344 0.38 0.348 0.348	3.0 4.0 Kehadiran 0.2 0.168 0.188 0.166 0.156 0.156	70.0 92.0 Hasil Akhir dan I 0 0.6 0.075 0.075 0.075 0.1	Alysa Amal Inggi Kwee Peringkat 0.261 0.284	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891 0.879 0.864 0.85 0.84	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3 4 5 5 6 7 8
Alysa Amal Inggi Kwee Nama Ardiansa Mart Revan Syahal Owen Corras Maga Mart Anggi Kwee Calista Natha Anggi Misah Alysa Amalia Alysa Amalia	85,0 85,0 tawid l ius inia a	70.0 72.0 Nillai Akademik 0.4 0.38 0.336 0.336 0.348 0.348 0.348 0.356 0.336	3.0 4.0 Kehadiran 0.2 0.168 0.168 0.166 0.156 0.178 0.156 0.156 0.166	70.0 92.0 Hasil Akhir dan I 92.0 0.06 0.06 0.075 0.075 0.075 0.075 0.075 0.1 0.06	Alysa Amal Inggi Kwee Peringkat 0.281 0.294 0.294 0.294 0.294 0.294 0.228 0.228 0.228 0.228 0.228	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891 0.879 0.864 0.85 0.84 0.85 0.84	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 2 3 4 5 6 7 8 9
Aiysa Amal Inggi Kwee Ardiansa Mart Revan Syahal Owen Corneli Unggi Kwee Calista Natha Caltin Santas Anggi Misah Aiysa Amalia Kevin N. Tan	85.0 85.0 tawid tawid tawid tawid tawid tawid tawid	70.0 72.0 Nilial Akademik 0.4 0.38 0.336 0.336 0.344 0.348 0.348 0.346 0.336 0.336	3.0 4.0 Kehadiran 0.2 0.168 0.188 0.186 0.186 0.166 0.156 0.156 0.156	70.0 92.0 Hasil Akhir dan I 9 0.06 0.075 0.075 0.1 0.075 0.1 0.06 0.075 0.1 0.06	Alysa Amal Inggi Kwee Peringkat 0.261 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.294 0.228 0.249 0.228 0.241	0.89 0.89	0.78 0.8 Nilai Akhir 0.921 0.902 0.893 0.891 0.879 0.85 0.85 0.84 0.826 0.826 0.813	1 0.75	0.76 1 Cetak Hasil Akhi Peringkat 1 2 3 4 5 5 6 7 7 8 9 10

Figure 6. Final Result Value Data Screen Display

f. Report Result Data

The image below shows a display of the printable ranking results.

	SMA Mahat	ma Gadin	g
		HIR	
	HASIL AKI		
NAMA	HASIL AKI Nilai dari beberapa Kriteria	NILAI AKHIR	PERINGKAT
IAMA Ardiansa Martawidaja	HASIL AKI Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261]	NILAI AKHIR 0.921	PERINGKAT
NAMA Ardiansa Martawidaja Revan Syahal	HASIL AKI Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294]	NILAI AKHIR 0.921 0.902	PERINGKAT 1 2
vama Irdiansa Martawidaja ≹evan Syahal Dwen Cornelius	HASIL AKI Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294] [0.336, 0.188, 0.075, 0.294]	NILAI AKHIR 0.921 0.902 0.893	PERINGKAT 1 2 3
VAMA Ardiansa Martawidaja Revan Syahal Dwen Cornelius nggi Kwee	HASIL AKI Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294] [0.356, 0.168, 0.075, 0.294] [0.356, 0.16, 0.075, 0.3]	NILAI AKHIR 0.921 0.902 0.893 0.891	PERINGKAT 1 2 3 4
NAMA Ardiansa Martawidaja Revan Syahal Dwen Cornelius nggi Kwee Calista Nathania	HASIL AK! Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294] [0.36, 0.168, 0.075, 0.294] [0.36, 0.16, 0.075, 0.294]	NILAI AKHIR 0.921 0.902 0.893 0.891 0.879	PERINGKAT 1 2 3 4 5
NAMA Ardiansa Martawidaja Revan Syahal Oven Cornelius Inggi Kwee Zalista Nathania Calita Nathania	HASIL AKI Nilai dari beberak Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294] [0.38, 0.168, 0.075, 0.294] [0.36, 0.16, 0.075, 0.294] [0.34, 0.166, 0.075, 0.294] [0.38, 0.156, 0.1, 0.228]	NILAI AKHIR 0.921 0.902 0.893 0.891 0.879 0.879 0.864	PERINGKAT 1 2 3 4 5 6
NAMA Ardiansa Martawidaja Ravan Syahal Owen Cornelius Inggi Kwee Calista Nathania Calista Nathania Calista Santasa Anggi Misah	HASIL AKI Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294] [0.36, 0.188, 0.075, 0.294] [0.36, 0.16, 0.075, 0.294] [0.344, 0.166, 0.075, 0.294] [0.38, 0.156, 0.1, 0.228] [0.348, 0.178, 0.075, 0.249]	NILAI AKHIR 0.921 0.902 0.893 0.891 0.879 0.864 0.85	PERINGKAT 1 2 3 4 5 6 7
NAMA Ardiansa Martawidaja Tavan Syahal Dwen Cornelius Inggi Kwee Calista Nathania Calitin Santasa Anggi Misah	HASIL AKI Nilai dari beberapa Kriteria [0.4, 0.2, 0.06, 0.261] [0.38, 0.168, 0.06, 0.294] [0.356, 0.188, 0.075, 0.294] [0.366, 0.16, 0.075, 0.294] [0.344, 0.166, 0.075, 0.294] [0.38, 0.156, 0.1, 0.228] [0.348, 0.176, 0.075, 0.249]	NILAI AKHIR 0.921 0.902 0.893 0.891 0.879 0.864 0.85 Jakarta Sabtu I	PERINGKAT 1 2 3 4 5 6 7 2 Agustus 2023

Figure 7. Report Result Data Screen Display

3. Advantages and Disadvantages

KThe advantages and disadvantages of implementing a decision support system are as follows:This system makes it easier for schools to determine outstanding students at SMA Mahatma Gading Jakarta and determine outstanding students



SEAN INSTITUTE VOL : 1 No: 2 TAHUN 2023 E-ISSN: 2988-6910

faster and the score calculation process produces more accurate and effective data. The weaknesses are:This decision support system (DSS) must require complete and valid data, and this system takes a long time to calculate and requires competent experts to operate it.

CONCLUSIONS

There are several things that are the conclusions of this study, namely the implementation of a decision support system using the simple additive weighting method runs well, marked by giving a ranking to each alternative so that it makes it easier for schools to determine students who excel. Based on the final results, the 3 (three) best rankings, namely Ardiansa Martawijaya, got the first rank with a score of 0.921, then Revan Sahal got the second rank with a score of 0.902 and the third rank was a student named Owen Cornelius with a score of 0.893.

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