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Implementation of the ORESTE Method in Determining the Selection of Service Ambassador Events

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ABSTRACT

The selection of candidates to become Service Ambassadors is an important and complex process. Assessors need to consider many factors and the relative weight of each factor to ensure the best candidate is selected for the position. One method that can be used in candidate selection is the ORESTE method. The ORESTE method is a multi-criteria decision-making method developed by J.P. Brans and B. Mareschal in 1994. This method allows assessors to aggregate multiple criteria and consider the relative weight of each criterion to compare alternatives and produce a ranking of candidates based on the highest relative value. In the context of Service Ambassador selection, the ORESTE method can assist assessors in solving complex decision-making problems and ensuring the best candidate is selected for the position. The method allows raters to consider multiple criteria and consider the relative weight of each criterion, resulting in a ranking of candidates based on the highest relative value. Thus, the use of the ORESTE method in determining the selection of Tourism Ambassadors can simplify and speed up the candidate selection process, as well as increase accuracy and satisfaction in decision making. By using the ORESTE method, the results of the decision to select the winner of the Service Ambassador event are obtained with a preference value of 4.42.

Keywords: Decision Support System, ORESTE Method, Selection, Service Ambassador, Accuracy

INTRODUCTION

Service Ambassador event is a competition or selection to select individuals or teams who will become service ambassadors for a product, brand, or service (Sari et al., 2020). The participants in this event will demonstrate skills, abilities, knowledge, creativity and commitment in providing good service and promoting the product or service they represent. Service Ambassador is usually an important position in a company or organization, because they are responsible for providing a good customer experience and building positive relationships with customers (Dinah et al., 2020; Najwah & Chasanah, n.d.). As service ambassadors, Service Ambassadors must have good communication skills, the ability to solve problems, good product or service knowledge, and the ability to work in a team. Service Ambassador events can be conducted in various sectors, one of which is in the field of retail stores (Amelia & Nur Shofa, 2021). In this event, participants will compete to be the best Service Ambassador and have the opportunity to win prizes and recognition for their skills in providing good service.

However, the process of selecting candidates for Service Ambassador events is often not easy. There

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are many factors to consider, such as skills, abilities, knowledge, creativity, and commitment. In addition, assessors also need to consider the relative weight of each of these factors and how best to measure and compare candidates based on these factors. The problem that often occurs in the selection of candidates for the Service Ambassador event is in determining the validity of the results of each candidate. There is often fraud from the results of the assessment given due to the lack of transparency in the assessment. As has happened before the assessment team has personal preferences or prejudices against several individuals or groups, it can affect the assessment which results in the results of validity cannot be accounted for because the assessment has not used the reference criteria but the personal preference or prejudice factor. Therefore, to overcome the problems that have occurred previously, this research will implement a Decision Support System (DSS) that will overcome problems related to the selection of candidates for the Service Ambassador event by adopting one of the methods, namely ORESTE.

Decision Support System (DSS) is a system capable of providing problem-solving and communication capabilities for problems with semi-structured and unstructured conditions (Rupnik et al., 2019; Setiawan & Bengkulu, 2017). This system is used to assist decision making in semi-structured situations and unstructured situations, where no one knows exactly how decisions should be made (Dewi & Sinaga, 2021; Gardas et al., 2019; Winata & Nasyuha, 2018; G. Wu et al., 2020).

The ORESTE method is one of the methods used in multi-criteria decision making. This method was developed by J.P. Brans and B. Mareschal in 1994 (Arahman, 2022; Van Huylenbroeck, 1995; X. Wu & Liao, 2018). ORESTE stands for "Optimization on the basis of Ratio Analysis". This method is used to solve decision-making problems by collecting different criteria and sub-criteria, giving weights to each criterion, and comparing alternatives using relative values (Mandarani et al., 2022; Sudipa et al., 2022). In the context of Service Ambassador selection, the ORESTE method can be used to evaluate candidates based on relevant criteria. Each criterion is then given a relative weight based on its importance in the selection of Service Ambassadors. Once the criteria and weights are determined, an assessment is made of each candidate using the relative scores on each criterion. The ORESTE method then calculates the total relative score for each candidate and produces a ranking of candidates based on the lowest relative score. In the context of Tourism Ambassador selection, the ORESTE method can help solve decision-making problems in a systematic and structured manner. This method allows raters to collect and consider multiple criteria simultaneously, while still considering the relative weight of each criterion. The ORESTE method is unique from other DSS methods, in that the decision results are given the lowest relative value that will occupy the highest rank and vice versa the highest relative value will occupy the lowest rank. After the results that have been processed using ORESTE have been successfully determined, problems related to personal preferences or prejudices are expected to be resolved because the reference of the assessment by each candidate will certainly be processed in accordance with the criteria that have been determined and validity will also be accountable because transparency will be provided through a report on the results of the ORESTE process.

LITERATURE REVIEW

Organization Rangement Et Syntest De Relatonnelles (ORESTE) Method

The algorithm for solving the Oreste Method is as follows (Almahera, n.d.; Fahlevvi et al., 2023; Nurzaman & Manungga, 2022; Prayudi et al., 2021; Rohman Cholil et al., 2021):

1. Define in advance the criteria that will be used as a benchmark for problem solving.
2. Transform the existing alternatives into besson-rank form so that they are ordinal or ranked. If there is the same value then find the mean.
3. Calculate Distance - Score by calculating each alternative - criterion pair as a "distance" value for the ideal position and is occupied by the best alternative for the most important criteria..
   This score is the average Besson-rank **rcj** of criterion **cj**, and the Besson-rank **rcj (a)** of alternative **a** in criterion **cj**.

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$$D(a_j,c_j) = [\ ½\ r\ c_j^R + ½\ r\ c_j$$

Description:
D (aj,cj) = *Distance-Score*
rcj = *Besson – rank* criteria j
rcj (a) = Besson – rank alternatives in criteria
R = Coefficient (default = 2) The value of the determination of multiplication.

4. Calculating the preference value (Vi) = Distance Score * Wj (Criteria Weight)
5. Perform ranking of the accumulated oreste method to determine the best alternative.

METHOD

Good research must be based on good research methodology as well. The following are the Research Stages, namely:

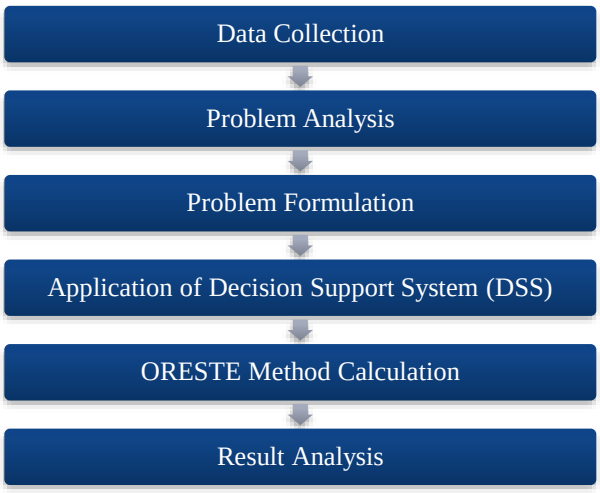

Figure 1: Research Stages

In this section, each researcher is expected to be able to make the most recent contribution related to the solution to the existing problems. Researchers can also use images, diagrams, and flowcharts to explain the solutions to these problems.

RESULT

Step 1 Define Criteria and Weights

First define the criteria that will be used as benchmarks for problem solving. The criteria used in determining the selection of Service Ambassador events are as follows:

Table 1. Service Ambassador Criteria

No	Criteria Name	Criteria Code	Weight Value
1	Skills	C1	35%
2	Ability	C2	25%
3	Knowledge	C3	20%
4	Creativity	C4	15%
5	Commitment	C5	5%
	Total		**100%**

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And based on the results of the Service Ambassador assessment called the following alternatives are alternative value tables:

Table 2. Assessment of each alternative

No	Alternative	C1	C2	C3	C4	C5
1	Soraya	4	4	3	3	4
2	Sinta	3	3	4	3	3
3	Yulia	3	4	3	3	2
4	Bambang	3	3	2	3	3
5	Fauji	2	2	3	3	3
6	Ahmad	4	3	3	2	3
7	Dewi	3	3	4	3	2
8	Tomi	3	4	2	2	4
9	Monika	4	3	3	3	3
10	Susi	3	2	3	3	3

Step 2 Transforming Alternative Data into Besson-Rank

In this step. each alternative data is converted into Besson-Rank form so that it is ordinal or ranked. if there is the same value then find the mean. And based on the results of the Besson-Rank assessment the following is a table of normalized Besson-Rank values :

Table 3. Besson-Rank Normalization Results

No	Alternative	C1	C2	C3	C4	C5
1	Soraya	2	2	5.5	4.5	1.5
2	Sinta	6.5	6	1.5	4.5	5.5
3	Yulia	6.5	2	5.5	4.5	9.5
4	Bambang	6.5	6	9.5	4.5	5.5
5	Fauji	10	9.5	5.5	4.5	5.5
6	Ahmad	2	6	5.5	9.5	5.5
7	Dewi	6.5	6	1.5	4.5	9.5
8	Tomi	6.5	2	9.5	9.5	1.5
9	Monika	2	6	5.5	4.5	5.5
10	Susi	6.5	9.5	5.5	4.5	5.5

Step 3 Calculating Distance-Score Value

Calculate the Distance - Score value by calculating each alternative - criterion pair as a "distance" value for the ideal position occupied by the best alternative for the most important criteria. This score is the average value of Besson - rank **rcj** criteria **cj**. and Besson rank **rcj (a)** alternative **a** in criteria **cj**.
Distance – Score $\mathbf{D(a_j.c_j) = [\ ½\ r\ c_j^R + ½\ r\ c_j\ (a)^R]^{\ 1/R}}$.
Description :
D (aj.cj) = *Distance-Score*
rcj = *Besson – rank* criteria j
rcj (a) = *Besson – rank* alternatives in criteria.
R = Coefficient (*default* = 2) The value of the determination of multiplication.
Solution :

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1. **D(a1,c1)**

$D(a1, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 2^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a1, c1) = \sqrt{2 + 0{,}5}$
$D(a1, c1) = \sqrt{2{,}50}$
$D(a1, c1) = 1{,}58$

2. **D(a2,c1)**

$D(a2, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 6{,}5^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a2, c1) = \sqrt{21{,}13 + 0{,}5}$
$D(a2, c1) = \sqrt{21{,}63}$
$D(a2, c1) = 4{,}65$

3. **D(a3,c1)**

$D(a3, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 6{,}5^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a3, c1) = \sqrt{21{,}13 + 0{,}5}$
$D(a3, c1) = \sqrt{21{,}63}$
$D(a3, c1) = 4{,}65$

4. **D(a4,c1)**

$D(a4, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 6{,}5^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a4, c1) = \sqrt{21{,}13 + 0{,}5}$
$D(a4, c1) = \sqrt{21{,}63}$
$D(a4, c1) = 4{,}65$

5. **D(a5,c1)**

$D(a5, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 10\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a5, c1) = \sqrt{50{,}00 + 0{,}5}$
$D(a5, c1) = \sqrt{50{,}50}$
$D(a5, c1) = 7{,}11$

6. **D(a6,c1)**

$D(a6, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 2^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a6, c1) = \sqrt{2 + 0{,}5}$
$D(a6, c1) = \sqrt{2{,}50}$
$D(a6, c1) = 1{,}58$

7. **D(a7,c1)**

$D(a7, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 6{,}5^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a7, c1) = \sqrt{21{,}13 + 0{,}5}$
$D(a7, c1) = \sqrt{21{,}63}$
$D(a7, c1) = 4{,}65$

8. **D(a8,c1)**

$D(a8, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 6{,}5^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a8, c1) = \sqrt{21{,}13 + 0{,}5}$
$D(a8, c1) = \sqrt{21{,}63}$
$D(a8, c1) = 4{,}65$

9. **D(a9,c1)**

$D(a9, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 2^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a9, c1) = \sqrt{2 + 0{,}5}$
$D(a9, c1) = \sqrt{2{,}50}$
$D(a9, c1) = 1{,}58$

10. **D(a10,c1)**

$D(a10, c1) = \sqrt{\left(\frac{1}{2} \text{ x } 6{,}5^2\right) + \left(\frac{1}{2} \text{ x } 1^2\right)}$
$D(a10, c1) = \sqrt{21{,}13 + 0{,}5}$
$D(a10, c1) = \sqrt{21{,}63}$
$D(a10, c1) = 4{,}65$

11. **D(a1,c2)**

$D(a1, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 2^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$
$D(a1, c2) = \sqrt{2{,}00 + 2}$
$D(a1, c2) = \sqrt{4}$
$D(a1, c2) = 2{,}00$

12. **D(a2,c2)**

$D(a2, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 6^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$
$D(a2, c2) = \sqrt{20{,}00 + 2}$
$D(a2, c2) = \sqrt{20{,}00}$
$D(a2, c2) = 4{,}47$

13. **D(a3,c2)**

$D(a3, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 2^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$
$D(a3, c2) = \sqrt{2{,}00 + 2}$
$D(a3, c2) = \sqrt{4}$
$D(a3, c2) = 2{,}00$

14. **D(a4,c2)**

$D(a4, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 6^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$
$D(a4, c2) = \sqrt{20{,}00 + 2}$
$D(a4, c2) = \sqrt{20{,}00}$
$D(a4, c2) = 4{,}47$

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15. **D(a5,c2)**

$$D(a5, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$$
$$D(a5, c3) = \sqrt{45{,}13 + 4{,}5}$$
$$D(a5, c3) = \sqrt{47{,}13}$$
$$D(a5, c3) = 6{,}86$$

16. **D(a6,c2)**

$$D(a6, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 6^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$$
$$D(a6, c2) = \sqrt{20{,}00 + 2}$$
$$D(a6, c2) = \sqrt{20{,}00}$$
$$D(a6, c2) = 4{,}47$$

17. **D(a7,c2)**

$$D(a7, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 6^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$$
$$D(a7, c2) = \sqrt{20{,}00 + 2}$$
$$D(a7, c2) = \sqrt{20{,}00}$$
$$D(a7, c2) = 4{,}47$$

18. **D(a8,c2)**

$$D(a8, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 2^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$$
$$D(a8, c2) = \sqrt{2{,}00 + 2}$$
$$D(a8, c2) = \sqrt{4}$$
$$D(a8, c2) = 2{,}00$$

19. **D(a9,c2)**

$$D(a9, c2) = \sqrt{\left(\frac{1}{2} \text{ x } 6^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$$
$$D(a9, c2) = \sqrt{20{,}00 + 2}$$
$$D(a9, c2) = \sqrt{20{,}00}$$
$$D(a9, c2) = 4{,}47$$

20. **D(a10,c2)**

$$D(a10, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 2^2\right)}$$
$$D(a10, c3) = \sqrt{45{,}13 + 4{,}5}$$
$$D(a10, c3) = \sqrt{47{,}13}$$
$$D(a10, c3) = 6{,}86$$

21. **D(a1,c3)**

$$D(a1, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a1, c3) = \sqrt{15{,}13 + 4{,}5}$$
$$D(a1, c3) = \sqrt{19{,}63}$$
$$D(a1, c3) = 4{,}43$$

22. **D(a2,c3)**

$$D(a2, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 1{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a2, c3) = \sqrt{1{,}13 + 45}$$
$$D(a2, c3) = \sqrt{5{,}63}$$
$$D(a2, c3) = 2{,}37$$

23. **D(a3,c3)**

$$D(a3, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a3, c3) = \sqrt{15{,}13 + 4{,}5}$$
$$D(a3, c3) = \sqrt{19{,}63}$$
$$D(a3, c3) = 4{,}43$$

24. **D(a4,c3)**

$$D(a4, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a4, c3) = \sqrt{45{,}13 + 4{,}5}$$
$$D(a4, c3) = \sqrt{49{,}63}$$
$$D(a4, c3) = 7{,}04$$

25. **D(a5,c3)**

$$D(a5, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a5, c3) = \sqrt{15{,}13 + 4{,}5}$$
$$D(a\%, c3) = \sqrt{19{,}63}$$
$$D(a5, c3) = 4{,}43$$

26. **D(a6,c3)**

$$D(a6, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a6, c3) = \sqrt{15{,}13 + 4{,}5}$$
$$D(a6, c3) = \sqrt{19{,}63}$$
$$D(a6, c3) = 4{,}43$$

27. **D(a7,c3)**

$$D(a7, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 1{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a7, c3) = \sqrt{1{,}13 + 45}$$
$$D(a7, c3) = \sqrt{5{,}63}$$
$$D(a7, c3) = 2{,}37$$

28. **D(a8,c3)**

$$D(a8, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$
$$D(a8, c3) = \sqrt{45{,}13 + 4{,}5}$$
$$D(a8, c3) = \sqrt{49{,}63}$$
$$D(a8, c3) = 7{,}04$$

29. **D(a9,c3)**

$$D(a9, c3) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$$

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D(a9, c3) = $\sqrt{15{,}13 + 4{,}5}$
D(a9, c3) =$\sqrt{19{,}63}$
D(a9, c3) = 4,43

30. **D(a10,c3)**

D(a10, c3) = $\sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 3^2\right)}$
D(a10, c3) = $\sqrt{15{,}13 + 4{,}5}$
D(a10, c3) =$\sqrt{19{,}63}$
D(a10, c3) = 4,43

31. **D(a1,c4)**

D(a1, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a1, c4) = $\sqrt{10{,}13 + 8}$
D(a1, c4) =$\sqrt{18{,}13}$
D(a1, c4) = 4,26

32. **D(a2,c4)**

D(a2, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a2, c4) = $\sqrt{10{,}13 + 8}$
D(a2, c4) =$\sqrt{18{,}13}$
D(a2, c4) = 4,26

33. **D(a3,c4)**

D(a3, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a3, c4) = $\sqrt{10{,}13 + 8}$
D(a3, c4) =$\sqrt{18{,}13}$
D(a3, c4) = 4,26

34. **D(a4,c4)**

D(a4, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a4, c4) = $\sqrt{10{,}13 + 8}$
D(a4, c4) =$\sqrt{18{,}13}$
D(a4, c4) = 4,26

35. **D(a5,c4)**

D(a5, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a5, c4) = $\sqrt{10{,}13 + 8}$
D(a5, c4) =$\sqrt{18{,}13}$
D(a5, c4) = 4,26

36. **D(a6,c4)**

D(a6, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a6, c4) = $\sqrt{45{,}13 + 8}$
D(a6, c4) =$\sqrt{53{,}13}$
D(a6, c4) = 7,29

37. **D(a7,c4)**

D(a7, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a7, c4) = $\sqrt{10{,}13 + 8}$
D(a7, c4) =$\sqrt{18{,}13}$
D(a7, c4) = 4,26

38. **D(a8,c4)**

D(a8, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a8, c4) = $\sqrt{45{,}13 + 8}$
D(a8, c4) =$\sqrt{53{,}13}$
D(a8, c4) = 7,29

39. **D(a9,c4)**

D(a9, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a9, c4) = $\sqrt{10{,}13 + 8}$
D(a9, c4) =$\sqrt{18{,}13}$
D(a9, c4) = 4,26

40. **D(a10,c4)**

D(a10, c4) = $\sqrt{\left(\frac{1}{2} \text{ x } 4{,}5^2\right) + \left(\frac{1}{2} \text{ x } 4^2\right)}$
D(a10, c4) = $\sqrt{10{,}13 + 8}$
D(a10, c4) =$\sqrt{18{,}13}$
D(a10, c4) = 4,26

41. **D(a1,c5)**

D(a1, c5) = $\sqrt{\left(\frac{1}{2} \text{ x } 1{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$
D(a1, c5) = $\sqrt{1{,}13 + 12{,}5}$
D(a1, c5) =$\sqrt{13{,}63}$
D(a1, c5) = 3,69

42. **D(a2,c5)**

D(a2, c5) = $\sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$
D(a2, c5) = $\sqrt{15{,}13 + 12{,}5}$
D(a2, c5) =$\sqrt{27{,}63}$
D(a2, c5) = 5,26

43. **D(a3,c5)**

D(a3, c5) = $\sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$
D(a3, c5) = $\sqrt{45{,}13 + 12{,}5}$
D(a3, c5) =$\sqrt{57{,}63}$
D(a3, c5) = 7,59

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44. **D(a4,c5)**

$D(a4, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a4, c5) = \sqrt{15{,}13 + 12{,}5}$

$D(a4, c5) = \sqrt{27{,}63}$

D(a4, c5) = 5,26

45. **D(a5,c5)**

$D(a5, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a5, c5) = \sqrt{15{,}13 + 12{,}5}$

$D(a5, c5) = \sqrt{27{,}63}$

D(a5, c5) = 5,26

46. **D(a6,c5)**

$D(a6, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a6, c5) = \sqrt{15{,}13 + 12{,}5}$

$D(a6, c5) = \sqrt{27{,}63}$

D(a6, c5) = 5,26

47. **D(a7,c5)**

$D(a7, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 9{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a7, c5) = \sqrt{45{,}13 + 12{,}5}$

$D(a7, c5) = \sqrt{57{,}63}$

D(a7, c5) = 7,59

48. **D(a8,c5)**

$D(a8, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 1{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a8, c5) = \sqrt{1{,}13 + 12{,}5}$

$D(a8, c5) = \sqrt{13{,}63}$

D(a8, c5) = 3,69

49. **D(a9,c5)**

$D(a9, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a9, c5) = \sqrt{15{,}13 + 12{,}5}$

$D(a9, c5) = \sqrt{27{,}63}$

D(a9, c5) = 5,26

50. **D(a10,c5)**

$D(a10, c5) = \sqrt{\left(\frac{1}{2} \text{ x } 5{,}5^2\right) + \left(\frac{1}{2} \text{ x } 5^2\right)}$

$D(a10, c5) = \sqrt{15{,}13 + 12{,}5}$

$D(a10, c5) = \sqrt{27{,}63}$

D(a10, c5) = 5,26

Here are the results of the accumulated Distance-Score values. as follows :

Table 4 Distance Score Results

No	Name	C1	C2	C3	C4	C5
1	Soraya	1.58	2.00	4.43	4.26	3.69
2	Sinta	4.65	4.47	2.37	4.26	5.26
3	Yulia	4.65	2.00	4.43	4.26	7.59
4	Bambang	4.65	4.47	7.04	4.26	5.26
5	Fauji	7.11	6.86	4.43	4.26	5.26
6	Ahmad	1.58	4.47	4.43	7.29	5.26
7	Dewi	4.65	4.47	2.37	4.26	7.59
8	Tomi	4.65	2.00	7.04	7.29	3.69
9	Monika	1.58	4.47	4.43	4.26	5.26
10	Susi	4.65	6.86	4.43	4.26	5.26

Step 4 Calculating Preference Value

Calculating the preference value (Vi) = *Distance-Score* x Wj (Weight) is as follows :

A1 = (1.58 x 0.35) + (2.00 x 0.25) + (4.43 x 0.20) + (4.26 x 0.15) + (3.69 x 0.5) = 4.42
A2 = (4.65 x 0.35) + (4.47 x 0.25) + (2.37 x 0.20) + (4.26 x 0.15) + (5.26 x 0.5) = 6.49
A3 = (4.65 x 0.35) + (2.00 x 0.25) + (7.04 x 0.20) + (3.34 x 0.15) + (7.59 x 0.5) = 7.45
A4 = (4.65 x 0.35) + (4.47 x 0.25) + (4.74 x 0.20) + (4.26 x 0.15) + (5.26 x 0.5) = 7.42
A5 = (7.11 x 0.35) + (6.86 x 0.25) + (4.43 x 0.20) + (4.26 x 0.15) + (5.26 x 0.5) = 8.36
A6 = (1.58 x 0.35) + (4.47 x 0.25) + (4.43 x 0.20) + (7.29 x 0.15) + (5.26 x 0.5) = 6.28
A7 = (4.65 x 0.35) + (4.47 x 0.25) + (2.37 x 0.20) + (4.26 x 0.15) + (7.59 x 0.5) = 7.65
A8 = (4.65 x 0.35) + (2.00 x 0.25) + (7.04 x 0.20) + (7.29 x 0.15) + (3.69 x 0.5) = 6.48
A9 = (1.58 x 0.35) + (4.47 x 0.25) + (4.43 x 0.20) + (4.26 x 0.15) + (5.26 x 0.5) = 5.82

* Corresponding author

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A10 = (4.65 x 0.35) + (6.86 x 0.25) + (4.43 x 0.20) + (4.26 x 0.15) + (5.26 x 0.5) = 7.50

Step 5 Performing Ranking

After calculating using the Oreste method. the last step is to do the ranking. The following is a ranking table which is as follows :

Table 5 Final Result Table

No	Nama Alternative	Nilai Bobot	Rangking
1	Soraya	4.42	1
2	Sinta	6.49	5
3	Yulia	7.45	7
4	Bambang	7.42	6
5	Fauji	8.36	10
6	Ahmad	6.28	3
7	Dewi	7.65	9
8	Tomi	6.48	4
9	Monika	5.82	2
10	Susi	7.50	8

CONCLUSION

In applying the ORESTE method in determining the Selection of Service Ambassador Events where the ORESTE method performs a gradual process to determine the Selection of Service Ambassador Events. A feasible value is the value that gets the highest rank and so on. Based on the results of calculations using the ORESTE method, the results of the decision on the winner of the Service Ambassador event selection are obtained, namely with a preference value of 4.42 so that Soraya gets Rank 1 (One).

REFERENCES

Almahera, D. (N.D.). Sistem Pendukung Keputusan Perangkingan Dalam Pengajuan Mesin Edc Dengan Metode Oreste. In *Journal Of Informatics, Electrical And Electronics Engineering* (Vol. 1, Issue 4). Https://Djournals.Com/Jieee

Amelia, L., & Nur Shofa, R. (2021). *Sistem Pendukung Keputusan Penerimaan Karyawan Menggunakan Algoritma Multifactor Evaluation Process (Studi Kasus: Xyz Department Store Regional Priangan Timur)* (Vol. 4, Issue 1).

Arahman, H. (2022). Tingkat Akurasi Dalam Analisis Perbandingan Metode Oreste Dengan Psi Terhadap Penilai Kinerja Dosen. *Jurnal Informasi Dan Teknologi*. Https://Doi.Org/10.37034/Jidt.V5i1.220

Dewi, B. P., & Sinaga, D. C. P. (2021). Decision Support System For Assessing Community Satisfaction With Sari Mutiara Lubuk Pakam Hospital Services Using The Oreste Method. In *Technology, And Computer Science* (Vol. 1, Issue 1).

Dinah, A., #1, C., Hadi, A., #2, N., #3, D. S., & Karyawan Baru, P. (2020). Sistem Pedukung Keputusan Dalam Penerimaan Karyawan Baru Menggunakan Metode Oreste Pada Perusahaan Telkom Akses Medan * 1 Program Studi Sistem Informasi, Stmik Triguna Dharma * 2 Program Studi Sistem Informasi, Stmik Triguna Dharma * 3 Program Studi Tehnik Informatika, Stmik Triguna Dharma. *Jurnal Cybertech*, *3*(7). Https://Ojs.Trigunadharma.Ac.Id/

Fahlevvi, M. R., Akbar, F., & Nurmansyah, F. (2023). Sistem Pendukung Keputusan Untuk Menentukan Lokasi Etle (Electronic Traffic Law Enforcement) Pada Kabupaten Majalengka Menggunakan Metode Oreste. *Jiko (Jurnal Informatika Dan Komputer)*, *7*(1), 52. Https://Doi.Org/10.26798/Jiko.V7i1.723

Gardas, B. B., Raut, R. D., Cheikhrouhou, N., & Narkhede, B. E. (2019). A Hybrid Decision Support System For Analyzing Challenges Of The Agricultural Supply Chain. *Sustainable Production And*

* Corresponding author

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Accepted : Dec 29,2023
Published : Jan 1, 2024

Consumption, *18*, 19–32. Https://Doi.Org/10.1016/J.Spc.2018.11.007

Mandarani, P., Luthfia Ramadhan, H., Yulianti, E., Syahrani, A., Gajah Mada Jl Kandis Raya, J., Olo, K., Nanggalo, K., Padang, K., & Barat, S. (2022). Sistem Pendukung Keputusan Penulis Terbaik Menggunakan Metode Rank Order Centroid (Roc) Dan Evaluation Based On Distance From Average Solution (Edas). *Journal Of Information System Research*, *3*(4), 686–694. Https://Doi.Org/10.47065/Josh.V3i4.1845

Najwah, J., & Chasanah, A. N. (N.D.). *Pengaruh Viral Marketing, Online Consumer Reviews, Harga, Dan Brand Ambassador Terhadap Keputusan Pembelian Secara Online Di Tokopedia*.

Nurzaman, F., & Manungga, Y. (2022). Rancang Bangun Aplikasi Pendukung Pengambilan Keputusan Dengan Metode Oreste Pada Perusahaan Ekspedisi. In *32 | Tekinfo* (Vol. 23, Issue 1).

Prayudi, D., Oktapiani, R., & Gunawan, A. A. (2021). *Keputusan Promosi Efektif Dengan Metode Oreste Fuzzy Multiple Attribute Decision Making (Fmadm) Pada Umkm Gosimplywedding Sukabumi*. *6*(2), 290–296. Https://Doi.Org/10.32493/Informatika.V6i2.9855

Rohman Cholil, S., Pratika Mujiati Fahrudin, O., & Daphne Adhisti Putri Pertiwi, L. (2021). *Sistem Pendukung Keputusan Perpanjangan Kontrak Kerja Karyawan Pada Pt. Telkom Akses Reg Iv Menggunakan Metode Oreste* (Vol. 8, Issue 2). Http://Jurnal.Mdp.Ac.Id

Rupnik, R., Kukar, M., Vračar, P., Košir, D., Pevec, D., & Bosnić, Z. (2019). Agrodss: A Decision Support System For Agriculture And Farming. *Computers And Electronics In Agriculture*, *161*, 260–271. Https://Doi.Org/10.1016/J.Compag.2018.04.001

Sari, C. M., Nasution, S. D., & Sianturi, R. D. (2020). Sistem Pendukung Keputusan Seleksi Pemilihan Ajang Service Ambassador Medan Menerapkan Metode Vikor (Studi Kasus: Pt. Midi Utama Indonesia Tbk). *Jurnal Sistem Komputer Dan Informatika (Json)*, *1*(3), 182. Https://Doi.Org/10.30865/Json.V1i3.2093

Setiawan, Y., & Bengkulu, U. (2017). *Aplikasi Sistem Pendukung Keputusan Tanaman Obat Herbal Untuk Berbagai Penyakit Dengan Metode Roc (Rank Order Centroid) Dan Metode Oreste Berbasis Mobile Web Obat Herbal Untuk Berbagai Penyakit Dengan Metode Roc (Rank Order Centroid) Dan Metode*. *November*. Https://Doi.Org/10.21460/Inf.2016.122.486

Sudipa, I. G. I., Cakranegara, P. A., Ningtyas, M. W. A., Efendi, E., & Wahidin, A. J. (2022). Penilaian Aspek Keaktifan Belajar Mahasiswa Menggunakan Metode Oreste. *Remik*, *6*(3), 436–447. Https://Doi.Org/10.33395/Remik.V6i3.11628

Van Huylenbroeck, G. (1995). The Conflict Analysis Method" Bridging The Gap Between Eli Ctre, Promethee And Oreste. In *European Journal Of Operational Research* (Vol. 82).

Winata, H., & Nasyuha, A. H. (2018). *Sistem Pendukung Keputusan Untuk Menentuka Kelayakan Penerima Bantuan Siswa Miskin (Bsm) Pada Sd Negeri 8 Bintang Menggunakan Metode Technique For Order Preference By Similarity To Ideal Solution (Topsis)*. *17*(2), 198–205.

Wu, G., Yang, P., Xie, Y., Woodruff, H. C., Rao, X., Guiot, J., Frix, A. N., Louis, R., Moutschen, M., Li, J., Li, J., Yan, C., Du, D., Zhao, S., Ding, Y., Liu, B., Sun, W., Albarello, F., D'abramo, A., … Lambin, P. (2020). Development Of A Clinical Decision Support System For Severity Risk Prediction And Triage Of Covid-19 Patients At Hospital Admission: An International Multicentre Study. *European Respiratory Journal*, *56*(2). Https://Doi.Org/10.1183/13993003.01104-2020

Wu, X., & Liao, H. (2018). An Approach To Quality Function Deployment Based On Probabilistic Linguistic Term Sets And Oreste Method For Multi-Expert Multi-Criteria Decision Making. *Information Fusion*, *43*, 13–26. Https://Doi.Org/10.1016/J.Inffus.2017.11.008

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