**BIOS: Jurnal Informatika dan Sains**
Volume 3 Number 01, 2025, DOI 10.54209/bios.v1i02
E.SSN 2988-6910(Online)
https://seaninstitute.or.id/bersinar/index.php/bios/index

# Application of PROMETHEE Method to Support the Best Flourist

**Ni Kadek Shely Prastikayani[1*], Ni Ketut Maria Suryani[2], Ni Luh Sri Deviyanti[3], I Gede Iwan Sudipa[4], I Nyoman Tri Anindia Putra[5]**
Institut Bisnis dan Teknologi Indonesia, Denpasar, Indonesia[1,2,3,4]
Universitas Pendidikan Ganesha, Indonesia[5]

**Article Info**

**Corresponding Author:**
Ni Kadek Shely Prastikayani
E-mail:
shelyprastikayani@gmail.com

**ABSTRACT**

Determining the best flower shop in the INSTIKI campus area is a challenge because it involves various criteria that affect each other. This research applies the PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluations) method, a multicriteria decision-making method, to broadcast three alternative flower shops based on ten criteria, namely accessibility, price, product quality, product availability, service, store reputation, promotions and discounts, availability, operating hours, and transaction security. Data were obtained from a survey to university students. The analysis results show that Poppy Florist Bali is the best choice with the highest net flow value, followed by Flora Flower Boutique and Anya Florist. The PROMETHEE method is proven to provide a transparent, structured, and effective approach in supporting strategic decision making, thus providing relevant recommendations for flower shop business development.

**Keywords:**
PROMETHEE Method, Multicriteria Decision Making, Flower Shop Selection, Business Development



## INTRODUCTION

The selection of the right flower shop is one of the key factors in meeting the needs of various groups, including students, lecturers, and the community around the campus. The ideal florist is able to provide quality services, provide fresh products, and offer competitive prices. However, choosing the best florist is not an easy task, especially when it comes to considering various factors that affect each other, such as accessibility, price, product quality, and availability of additional services. The right decision can provide significant benefits, both in terms of time efficiency and customer satisfaction.

One of the main challenges in choosing the best florist is the difference in characteristics among the available alternatives. For example, a florist with lower prices may have insufficient product quality or be in a hard-to-reach location. Conversely, stores with superior product quality often charge higher prices. In these situations, it is important to consider various criteria thoroughly to ensure the decision made is in line with needs and preferences.

In addition, many consumers still rely on intuition or personal recommendations when it comes to choosing a florist. While this approach is sometimes successful, decisions based solely on intuition are often suboptimal, especially when they involve many choices and criteria(Sudipa et al., 2021; Sudipa, Widiantari, et al., 2024; Wijaya et al., 2022) . Therefore, a systematic and data-driven method is needed to support more effective and objective decision making.

To overcome these problems, the multi-criteria decision making (MCDM) method can be an effective solution(Putra et al., 2023; Sudipa, Wardoyo, et al., 2023; Wardah, 2022) . MCDM allows decision makers to systematically evaluate various alternatives by considering relevant criteria. One popular and widely used MCDM method in the context of site selection is the PROMETHEE (*Preference Ranking Organization Method for Enrichment Evaluations)* method. This method is designed to assist decision makers in comparing alternatives based on a number of predetermined criteria that are weighted according to their importance (Harjanti et al., 2023; Sartika, 2018; Sudipa et al., 2020).

The PROMETHEE method works by comparing each pair of alternatives based on certain criteria, calculating a preference value to assess how good one alternative is compared to another(Rodiah et al., 2021) . From the results of these calculations, this method produces outflow (the strength of alternative dominance based on other alternatives) and inflow (the dominance of other alternatives based on an alternative). The difference between outflow and inflow, called net flow, is used to determine the final ranking of the evaluated alternatives.

The main advantage of the PROMETHEE method lies in its simplicity in handling multiple criteria that are contradictory in nature(Mujilahwati et al., 2019; Piantari et al., 2024; Sudipa, Riana, et al., 2023) . For example, in the case of flower shop selection, criteria such as accessibility, product quality, and store reputation may need to be maximized, while those for price need to be minimized. PROMETHEE allows decision-makers to handle these situations in a logical and structured way. In addition, the method is also flexible as it can be used for both quantitative and qualitative data, making it well-suited for different types of business decisions (Muni et al., 2024).

The PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluations) method is one of the highly effective multicriteria decision-making methods for evaluating alternatives based on a number of criteria.

This research aims to provide a solution based on the challenge of selecting the best flower shop in the INSTIKI campus area by applying the PROMETHEE method. The main objective of this research is to identify the most optimal flower shop based on a number of predetermined criteria, so that it can support more effective and data-driven decision making. By using the PROMETHEE method, this research not only produces a comprehensive analysis but also provides strategic recommendations that are relevant to the development of the flower shop business. The results of this study are expected to help business people avoid mistakes in choosing a store or location, minimize the risk of loss, and maximize profit opportunities through the selection of flower shops that suit the needs of the campus community.

In the context of this research, some of the criteria used to evaluate location alternatives include accessibility, price, product quality, product availability, service, store reputation, promotions and discounts, delivery availability, operating hours, and transaction

security. These criteria were chosen because they are considered to have a significant influence based on the success of a business in a particular location. Weights are assigned to each criterion to reflect its level of importance, and the PROMETHEE method is used to calculate the preference value of each alternative. This process allows decision-makers to obtain store recommendations that are based on a transparent and systematic analysis(Kartini et al., 2022; Maulidah et al., 2024; Widyastuti et al., 2019) . In addition to providing optimal flower shop recommendations, this research also aims to apply the PROMETHEE method in the context of business decision-making, so that it can serve as a reference for the development of similar applications in the future. This approach not only offers a practical solution for a specific case study, but also contributes to the enrichment of literature related to multi-criteria-based decision-making methods in a business context (Budiman et al., 2024; Putri et al., 2024; Radhitya et al., 2022; Sudipa, Prananda, et al., 2024).

## METHOD

The PROMETHEE (Preference Ranking Organization Method for Enrichment Evaluation) method is a multicriteria decision-making method used to rank alternatives based on competing criteria(Ahmad et al., 2023; Kurniawan et al., 2021; Mahendra, Hariyono, et al., 2023; Sudipa, Kharisma, et al., 2023) . This method allows decision makers to choose the best alternative by considering preferences on each criterion, both maximization (gains) and minimization (losses). PROMETHEE has advantages in terms of ease of implementation, flexibility, and intuitive results, making it suitable for cases such as the selection of the best flower shop in the INSTIKI campus area, which involves many criteria and alternatives.

**Stages of the PROMETHEE Method**

There are stages that must be carried out by decision makers to get selection results with the PROMETHEE method (Mahendra, Wardoyo, et al., 2023; Sudipa et al., 2022; Sudipa, Pangaribuan, et al., 2023).

1. Identification of Criteria and Alternatives
   The initial stage involves identifying relevant criteria for site evaluation and site alternatives to be analyzed. Each criterion is grouped based on its orientation, namely maximization or minimization.
2. Weighting of Criteria
   Weights are assigned to reflect the importance of each criterion. Weights can be determined using methods such as AHP (Analytical Hierarchy Process) or based on expert interviews.
3. Assessment of Alternatives based on Criteria
   Quantitative or qualitative data for each alternative is evaluated based on each criterion. This data can come from surveys, statistics, or field observations.
4. Calculation of Difference in Value and Preference Function
   The preference function is used to measure the extent to which an alternative is preferred over other alternatives on each criterion. This function considers the difference between alternative values.
5. Global Preference Index Calculation

The global preference index is calculated by combining inter-alternative preferences using criterion weights.

6. Outflow and Inflow Calculation
   The outflow value ($\phi$ +) reflects how dominant an alternative is compared to others, while inflow ($\phi$ -) shows how dominated an alternative is by others .(Huzaeni et al., 2021)
7. Determination of Net Flow
   Net flow ($\phi$ ) is calculated by subtracting inflow from outflow. The alternative with the highest net flow is the best .(Mayangsari, 2021)

**Equation Method:**

1. Difference Between Alternative Values:

$$d = p1 - p2 \quad (1)$$

2. Preference Function:

$$H(d) = \begin{cases} 0\ jika\ d \leq 0 \\ d\ jika\ d > 0 \end{cases} \quad (2)$$

3. Global Preference Index:

$$\phi(a,b) = \sum_{i=1}^{n} \pi i\ \mathrm{Pi(a,b)}{:}\forall a,b \in A \quad (3)$$

4. Outflow:

$$\phi^{+}(a_1) = \frac{1}{n-1} \sum \varphi(a_1, x)\ x \in A \quad (4)$$

5. Inflow:

$$\phi^{-}(a_1) = \frac{1}{n-1} \sum \varphi(a_1, x)\ x \in A \quad (5)$$

6. Netflow:

$$\phi(a_1) = \phi^{+}(a_1) - \phi^{-}(a_1) \quad (6)$$

**Flowchart of Method Stages**

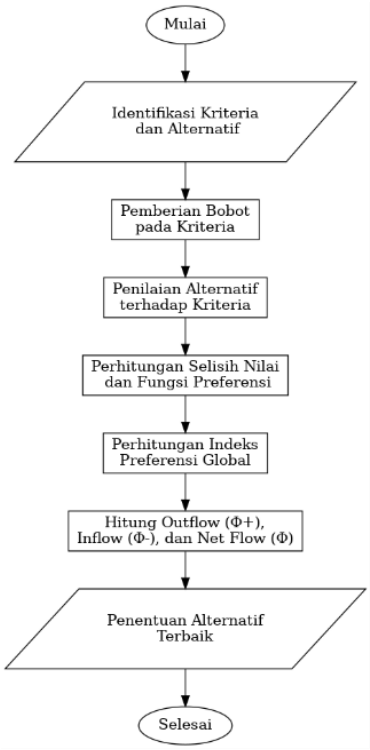


Figure 1. Stages of the Method

**Data Source**

The data sources in this research come from:

a. Primary Data: A survey using a questionnaire addressed to students, lecturers, and the community around the INSTIKI campus as respondents.
b. Secondary Data: Local statistics, government reports, regional data, or relevant previous research results to provide additional context regarding the INSTIKI campus area and its surrounding market potential.

## RESULTS AND DISCUSSION

**Alternative Data**

In this study, the authors identified four florist alternatives that were considered to support the decision.

Table 1 . Alternatives

| Alternatives | Description |
|---|---|
| A1 | Anya Florist |
| A2 | Flora Flower Boutique |
| A3 | Poppy Florist Bali |

a. Anya Florist: Strategic location near campus, high accessibility, premium product quality, fast service, and often provide special promotions for students.
b. Flora Flower Boutique: Located in a suburban area with affordable prices, standard product collection, good service, and occasional promotions.
c. Poppy Florist Bali : Developed area with low prices, high quality flowers, professional service, and a focus on fast delivery.

**Criteria Data**

The criteria in this study include:

Table 2 . Criteria

| Criteria | Description |
|---|---|
| C1 | Accessibility (max) |
| C2 | Price (min) |
| C3 | Product quality (max) |
| C4 | Product availability (max) |
| C5 | Service (max) |
| C6 | Store reputation (max) |
| C7 | Promotion and discount (max) |
| C8 | Delivery availability (max) |
| C9 | Operating hours (max) |
| C10 | Transaction security (max) |

1. Accessibility (max)
   Measures ease of access to the flower shop, including proximity to campus and availability of public transportation.
2. Price (min)
   Assess the level of affordability of products and services offered by the flower shop.
3. Product quality (max)
   Evaluate the freshness and beauty of the flowers offered.
4. Product availability (max)
   Measures the diversity and completeness of the types of flowers or flower arrangements available at the shop.
5. Service (max)
   Assess the quality of service, including staff friendliness, speed of service, and additional services such as delivery.
6. Store reputation (max)
   Based on customer reviews, testimonials, or reputation on social media.
7. Promotions and discounts (max)
   Assess how often the store provides promotions, discounts, or loyalty programs to customers.
8. Delivery availability (max)

Measures the flexibility and speed of delivery services for areas around the campus.

9. Operating hours (max)
   Assesses whether the store's opening hours suit the needs of students and the campus community.
10. Transaction security (max)
    Measures the convenience and security of the payment process, including digital payment options.

**Weight Data**

Weights are assigned based on the importance of the criteria, for example:

Table 3 . Weight

| Criteria | Description | Weight |
|---|---|---|
| C1 | Accessibility | 0.095 |
| C2 | Price | 0.238 |
| C3 | Product Quality | 0.238 |
| C4 | Product Availability | 0.048 |
| C5 | Service | 0.143 |
| C6 | Store Reputation | 0.048 |
| C7 | Promotion and Discount | 0.048 |
| C8 | Delivery Availability | 0.095 |
| C9 | Operating Hours | 0.024 |
| C10 | Transaction Security | 0.024 |

**Assessment Criteria**

The criteria used are:

1. Accessibility (C1) - Measures the ease of access to the flower shop, including proximity to campus and availability of public transportation.
2. Price (C2) - Assesses the level of affordability of products and services offered by the flower shop.
3. Product Quality (C3) - Evaluates the freshness and beauty of the flowers offered.
4. Product Availability (C4) - Measures the diversity and completeness of the types of flowers or flower arrangements available at the shop.
5. Service (C5) - Assesses the quality of service, including staff friendliness, speed of service, and additional services such as delivery.
6. Store Reputation (C6) - Based on customer reviews, testimonials, or reputation on social media.
7. Promotions and Discounts (C7) - Assess how often the store provides promotions, discounts, or loyalty programs to customers.

8. Delivery Availability (C8) - Measures the flexibility and speed of delivery services for areas around the campus.
9. Operating Hours (C9) - Assesses whether the store's opening hours suit the needs of students and the campus community.
10. Transaction Security (C10) - Measures convenience and security in the payment process, including digital payment options.

**Alternative Assessment Data**

Table 4 . Alternative Assessment

| Alternatives | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| P1 | 1 | 4 | 5 | 4 | 4 | 3 | 2 | 1 | 3 | 5 |
| P2 | 5 | 4 | 4 | 1 | 3 | 1 | 2 | 3 | 4 | 4 |
| P3 | 1 | 3 | 5 | 4 | 3 | 2 | 2 | 4 | 1 | 5 |

**Calculation Steps with PROMETHEE Method**

**Calculating the Difference in Value for Each Pair of Alternatives**

The first step is to calculate the difference in values between alternatives for each criterion. Here are the results:

Criterion C1 (Accessibility):
P1 vs P2 =1-5=-4
P1 vs P3 =1-1= 0
P2 vs P3 =5-1= 4

Criterion C2 (Price):
P1 vs P2 =4-4= 0
P1 vs P3 =4-3= 1
P2 vs P3 =4-3= 1

Criterion C3 (Product Quality):
P1 vs P2 =5-4= 1
P1 vs P3 =5-5= 0
P2 vs P3 =4-5=-1

Criterion C4 (Product Availability):
P1 vs P2 =4-1= 3
P1 vs P3 =4-4= 0
P2 vs P3 =1-4=-3

Criterion C5 (Service):
P1 vs P2 =4-3= 1
P1 vs P3 =4-3= 1
P2 vs P3 =3-3= 0

Criterion C6 (Store Reputation):

P1 vs P2 =3-1= 2
P1 vs P3 =3-2= 1
P2 vs P3 =2-1=-1

Criterion C7 (Promotion and Discount):
P1 vs P2 =2-2= 0
P1 vs P3 =2-2= 0
P2 vs P3 =2-2= 0

Criterion C8 (Delivery Availability):
P1 vs P2 =1-3=-2
P1 vs P3 =1-4=-3
P2 vs P3 =3-4=-1

Criterion C9 (Operating Hours):
P1 vs P2 =3-4=-1
P1 vs P3 =3-1= 2
P2 vs P3 =4-1= 3

Criterion C10 (Transaction Security):
P1 vs P2 =5-4= 1
P1 vs P3 =5-5= 0
P2 vs P3 =4-5=-1

**Determine the Preference Function**

For simplicity, we use the usual criteria, where:

$$H\,(d)\; = \begin{cases} 0\; jika\; d\; \leq 0 \\ d\; jika\; d\; > 0 \end{cases}$$

Description:
*H(d)* : Criterion difference function
d : Difference in criteria value

By using the formula, so as to perform calculations for all criteria and alternatives, we will get a table that shows the preference value for each pair of alternatives.

Table 5 . Preference Value

| Alternative | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|---|---|---|---|---|---|---|---|---|---|---|
| (P1, P2) | -4 | 0 | 1 | 3 | 1 | 2 | 0 | -2 | -1 | 1 |
| (P1, P3) | 0 | 1 | 0 | 0 | 1 | 1 | 0 | -3 | 2 | 0 |
| (P2, P1) | 4 | 0 | -1 | -3 | -1 | -2 | 0 | 2 | 1 | -1 |
| (P2, P3) | 4 | 1 | -1 | -3 | 0 | -1 | 0 | -1 | 3 | -1 |
| (P3, P1) | 0 | -1 | 0 | 0 | -1 | -1 | 0 | 3 | -2 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (P3, P2) | -4 | -1 | -1 | 3 | 0 | 1 | 0 | 1 | -3 | 0 |

After finding the preference frequency for each alternative, the next step is to perform data processing "coefficients," which aims to integrate the preference values that have been calculated previously.

Table 6 . Conference Results

| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | Result |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 0,5 |
| 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0,4 |
| 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0,3 |
| 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0,3 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0,1 |
| 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0,3 |

**Calculating Multicriteria Preference Index**

After conducting dichotomies and integrating preference values for each alternative, the next step is to determine the preference index. This preference index is a measure that describes how much preference one alternative has compared to other alternatives based on predetermined criteria.

Table 7 . Multicriteria Preference Index

| **Alternative** | **P1** | **P2** | **P3** |
|---|---|---|---|
| **P1** | | 0,5 | 0,4 |
| **P2** | 0,3 | | 0,3 |
| **P3** | 0,1 | 0,3 | |

**Calculating Outflow ($\phi$ +) and Inflow ($\phi$ -)**

The value of outflow ($\phi$ +) reflects how dominant an alternative is compared to others, while inflow ($\phi$ -) shows how dominated an alternative is by others.

Table8 . Outflow

| Alternatives | Outflow |
|---|---|
| P1 | 0,9 |
| P2 | 0,6 |
| P3 | 0,4 |

Table9 . Inflow

| Alternative | Inflow |
|---|---|
| P1 | 0,4 |
| P2 | 0,8 |
| P3 | 0,7 |

**Calculating Netflow $\boldsymbol{\phi(a)}$**

Table10 . Netflow

| Alternative | Netflow |
|---|---|
| P1 | -5 |
| P2 | 0,2 |
| P3 | 0,3 |

**Final Calculation Result**

Table11 . Final Calculation Result

| Location | Outflow ($\boldsymbol{\phi}$ +) | Inflow ($\boldsymbol{\phi}$ -) | Net Flow (a)$\boldsymbol{\phi}$ | Rank |
|---|---|---|---|---|
| Anya Florist | 0,9 | 0.4 | -5 | 3 |
| Flora Flower Boutique | 0,6 | 0.8 | 0,2 | 2 |
| Poppy Florist Bali | 0.4 | 0,7 | 0,3 | 1 |

## CONCLUSION

The integration of Artificial Intelligence and Internet of Things technologies offers a transformative approach to water level monitoring and flood prediction. AI-assisted IoT systems enhance the capability to collect, analyze, and interpret environmental data in real-time, leading to more accurate and timely flood warnings. While promising, the implementation of these systems faces challenges related to data quality, infrastructure, and computational demands. Future research should focus on developing robust, scalable, and cost-effective solutions that can be deployed in diverse environments to mitigate the risks associated with flooding. This research successfully applied the PROMETHEE method to support decision-making in determining the best flower shop in the INSTIKI campus area. The analysis conducted using ten main criteria, such as price, product quality, service, accessibility, and delivery availability, provides objective and data-based results. From the results of the net flow value calculation, Poppy Florist Bali emerged as the best choice with a net flow value of 0.3, reflecting its excellence in offering affordable prices, fresh and attractive flower quality, professional services, and focus on fast delivery, making it very suitable for the needs of students and the community. In second place, Flora Flower Boutique earned a net flow score of 0.2. Although this shop performs well, some aspects such as product availability and service quality are still not as strong as Poppy Florist Bali. Meanwhile, Anya Florist came in last with a net flow value of -5, indicating that this shop has significant shortcomings in various criteria, such as price, service, and delivery, making it less recommended as a top choice. The results of this study confirm that the PROMETHEE method is an effective and structured tool in supporting multicriteria decision making. By providing clear recommendations based on comprehensive analysis, this research not only helps businesses in choosing the best florist, but also makes an academic contribution to the literature related to strategic decision-making.

## REFERENCES

Ahmad, I., Fatmayati, F., Sinlae, A. A. J., Sudipa, I. G. I., Alamsyah, D., Arisantoso, M. M., & Sarasvananda, I. B. G. (2023). *Metode Multi-Attribute Decision Making Pada Sistem Pendukung Keputusan*. CV. EDUKATIF JAYA NUSANTARA.

Budiman, D., Datya, A. I., Wartono, T., Judijanto, L., Sudipa, I. G. I., Kurniawan, H., Rakhmadani, D. P., Pasrun, Y. P., & Setiono, D. (2024). *Sistem Informasi Manajemen: Panduan Praktis dalam Pembangunan Sistem Informasi Manajemen*. PT. Sonpedia Publishing Indonesia.

Harjanti, T. W., Widjaja, H. R., Nofirman, N., Sudipa, I. G. I., Pramono, S. A., & Rahim, R. (2023). Selecting the Optimal Location for a New Facility: A PROMETHEE II Analyst. *International Journal of Artificial Intelligence Research*, *7*(1), 82–87. https://doi.org/https://doi.org/10.29099/ijair.v7i1.738

Huzaeni, F., Faizal, M. A., & Widyassari, A. P. (2021). Implementasi Metode Promethee Untuk Pendukung Keputusan Dalam Pemilihan Laptop. *Jurnal Ilmiah Intech : Information Technology Journal of UMUS*, *3*(01), 21–31.

Kartini, K. S., Putra, I. N. T. A., Atmaja, K. J., & Widiani, N. P. S. (2022). SISTEM INFORMASI PENJUALAN PADA SALAD YOO. *Jurnal Krisnadana*, *1*(2), 45–53.

Kurniawan, A., Lailiyah, S., & Arriyanti, E. (2021). PENERAPAN METODE PROMETHEE PADA SISTEM PENUNJANG KEPUTUSAN PEMILIHAN SUPPLIER BARANG Studi Kasus : Toko Jasa Kawan, Samarinda. *Jurnal Informatika Wicida*, *10*(2), 70–76. https://doi.org/10.46984/inf-wcd.1827

Mahendra, G. S., Hariyono, R. C. S., Purnawati, N. W., Hatta, H. R., Sudipa, I. G. I., Hamali, S., Sarjono, H., & Meilani, B. D. (2023). *BUKU AJAR SISTEM PENDUKUNG KEPUTUSAN*. PT. Sonpedia Publishing Indonesia.

Mahendra, G. S., Wardoyo, R., Pasrun, Y. P., Sudipa, I. G. I., Putra, I. N. T. A., Wiguna, I. K. A. G., Aristamy, I. G. A. A. M., Kharisma, L. P. I., Sutoyo, M. N., & Sarasvananda, I. B. G. (2023). *IMPLEMENTASI SISTEM PENDUKUNG KEPUTUSAN: Teori & Studi Kasus*. PT. Sonpedia Publishing Indonesia.

Maulidah, S. B. J., Sudipa, I. G. I., Fittryani, Y. P., Widiartha, K. K., & Winatha, K. R. (2024). Determination of MSMEs Business Feasibility Decisions using the Profile Matching Method. *Sinkron: Jurnal Dan Penelitian Teknik Informatika*, *8*(3), 1313–1325. https://doi.org/10.33395/sinkron.v8i3.13638

Mayangsari, S. dan A. S. (2021). *Prosiding Seminar Nasional CORISINDO 2021 Multidisiplin Ilmu Program Studi Manajemen Informatika, STMIK PPKIA Tarakanita Rahmawati 2 Program Studi Sistem Informasi, STMIK PPKIA Tarakanita Rahmawati*. 543–550.

Mujilahwati, S., Qomariyah Nawafilah, N., & Aliyudin, M. (2019). Analisis Hasil Prediksi Dengan Metode Promethee. *Jurnal Mnemonic*, *2*(1), 35–40. https://doi.org/10.36040/mnemonic.v2i1.49

Muni, G. D. S., Sudipa, I. G. I., Meinarni, N. P. S., Wiguna, I. K. A. G., & Sandhiyasa, I. M. S. (2024). Comparison of MAGIQ, MABAC, MARCOS, and MOORA Methods in Multi-Criteria Problems. *Sinkron: Jurnal Dan Penelitian Teknik Informatika*, *8*(3), 1286–1301. https://doi.org/10.33395/sinkron.v8i3.13639

Piantari, N. K. A., Putra, I. N. T. A., Widiastutik, S., & Kartini, K. S. (2024). Comparative Analysis of The MOORA Method for Evaluating The Effectiveness of Scholarship Acceptance. *Jurnal Galaksi*, *1*(1), 22–32. https://doi.org/10.70103/galaksi.v1i1.3

Putra, I. N. T. A. P., Kartini, K. S., Sudipa, I. G. I., Muharam, F., & Muryasa, I. M. (2023). Sistem Pendukung Keputusan Penerima Bantuan Langsung Tunai Menggunakan Metode Promethee. *KESATRIA: Jurnal Penerapan Sistem Informasi (Komputer & Manajemen)*, *4*(2), 429–441. https://doi.org/https://doi.org/10.30645/kesatria.v4i2.179.g178

Putri, N. P. M. E., Sudipa, I. G. I., Wiguna, I. K. A. G., Sarasvananda, I. B. G., & Sunarya, I. W. (2024). Decision Making Model for Temple Revitalization in Bali Using Fuzzy-SMARTER Combination Method. *Sinkron: Jurnal Dan Penelitian Teknik Informatika*, *9*(1), 61–74. https://doi.org/10.33395/sinkron.v9i1.13177

Radhitya, M. L., Sudipa, I. G. I., Setiawan, I. P. H., Permana, I. P. H., & Putra, I. N. T. A. (2022). Sistem Pengambilan Keputusan Penentuan Jurusan Pada Jenjang Sekolah Menengah Atas Menggunakan Model Yager. *Jurnal Sistem Komputer Dan Informatika (JSON)*, *4*(2), 280–287.

Rodiah, S., Damanik, I. S., & Suhendro, D. (2021). Penerapan Metode Promethee pada Perekrutan Calon Pegawai Non PNS Bawaslu Kabupaten Simalungun. *TIN: Terapan Informatika Nusantara*, *2*(4), 256–262.

Sartika, D. (2018). *Sistem Pendukung Keputusan Penentuan Pemenang Tender Proyek Menggunakan Metode Preference Ranking Organisational Method For Enrichment*

*Evaluation (PROMETHEE) (Tempat Studi Kasus : Dinas Pekerjaan Umum dan Penataang Ruang Kota Palembang)*.

Sudipa, I. G. I., Astria, C., Irnanda, K. F., Windarto, A. P., Daulay, N. K., Suharso, W., & Wijaya, H. O. L. (2020). Application of MCDM using PROMETHEE II Technique in the Case of Social Media Selection for Online Businesses. *IOP Conference Series: Materials Science and Engineering*, *835*(1), 12059. https://doi.org/10.1088/1757-899X/835/1/012059

Sudipa, I. G. I., Kharisma, L. P. I., Waas, D. V., Sari, F., Sutoyo, M. N., Rusliyadi, M., Setiawan, I., Martaseli, E., Sandhiyasa, I. M. S., & Sulistianto, S. W. (2023). *PENERAPAN DECISION SUPPORT SYSTEM (DSS) DALAM BERBAGAI BIDANG (Revolusi Industri 4.0 Menuju Era Society 5.0)*. PT. Sonpedia Publishing Indonesia.

Sudipa, I. G. I., Pangaribuan, J. J., Trihandoyo, A., Sinlae, A. A. J., Barus, O. P., Umar, N., Chyan, P., Saputra, R. H., Sukwika, T., & Mallu, S. (2023). *Sistem Pendukung Keputusan*. PT. Mifandi Mandiri Digital.

Sudipa, I. G. I., Prananda, I. K. H., Sandhiyasa, I. M. S., Atmaja, K. J., & Radhitya, M. L. (2024). Application of The TOPSIS Approach in A Company's Stock Investment Ranking Decision Support System Based On Value Investing. *ISAR Journal of Science and Technology*, *2*(3), 1–7. https://doi.org/https://doi.org/10.5281/zenodo.10885951

Sudipa, I. G. I., Putra, I. N. T. A., Asana, D. P., & Hanza, R. D. (2021). Implementation of Fuzzy Multi-Objective Optimization On The Basic Of Ratio Analysis (Fuzzy-MOORA) In Determining The Eligibility Of Employee Salary. *Telematika: Jurnal Informatika Dan Teknologi Informasi*, *18*(2), 143–156.

Sudipa, I. G. I., Riana, R., Putra, I. N. T. A., Yanti, C. P., & Aristana, M. D. W. (2023). Trend Forecasting of the Top 3 Indonesian Bank Stocks Using the ARIMA Method. *Sinkron: Jurnal Dan Penelitian Teknik Informatika*, *8*(3), 1883–1893. https://doi.org/10.33395/sinkron.v8i3.12773

Sudipa, I. G. I., Setyawati, E., Fajriana, F., Moedjahedy, J., Adicandra, I., & Rahim, R. (2022). Optimizing Decision Making in Manufacturing: An Analysis of the Effectiveness of a DSS Using the Weighted Product Method. *JINAV: Journal of Information and Visualization*, *3*(2). https://doi.org/10.35877/454RI.jinav1477

Sudipa, I. G. I., Wardoyo, R., Hatta, H. R., Sagena, U., Gunawan, I. M. A. O., Zahro, H. Z., & Adhicandra, I. (2023). *MULTI CRITERIA DECISION MAKING: Teori & Penerapan Metode Pengambilan Keputusan dengan MCDM*. PT. Sonpedia Publishing Indonesia.

Sudipa, I. G. I., Widiantari, K. P., Radhitya, M. L., Wijaya, B. K., & Joni, I. D. M. A. B. (2024). Dynamic Criteria Decision-Making Model for Business Development Recommendations Using Macbeth and Surrogate Weighting Procedures. *Journal of Computational Analysis and Applications (JoCAAA)*, *33*(05), 38–46.

Wardah, S. (2022). *Pengambilan Keputusan Multikriteria untuk Pemilihan Produk pada Perspektif Rantai Pasok Teori, Metode dan Studi Kasus*. PT Penerbit IPB Press.

Widyastuti, M., Samosir, F. R. S., Windarto, A. P., & Hartama, D. (2019). Implementasi Metode Promethee Dalam Pemilihan Kenaikan Jabatan Sous Chef Menjadi Chef. *Teknologi Komputer & Sains*, *1*(1), 807–812.

Wijaya, B. K., Sudipa, I. G. I., Waas, D. V., & Santika, P. P. (2022). Selection of Online Sales Platforms for MSMEs using the OCRA Method with ROC Weighting. *Journal of Intelligent Decision Support System (IDSS)*, *5*(4), 146–152. https://doi.org/https://doi.org/10.35335/idss.v5i4