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Abstract. An assistant is a person who is assigned to help with the distribution of paperwork in the office. It requires males and females on staff. The assistant is in charge of assisting the smooth functioning of these activities of the office. It is not easy to find a good assistant. For this election, I could use a set of tools that can assist me in determining whether the recommendations given should be good. The Multi-Criteria Decision-Making method can be used to provide recommendations for the selection. In this method, one of the methods is Multi-factor Evaluation Process (MFEP). Each item will be rated on a set of criteria, and the ratings will be compared for the highest rating possible. Afterward, the result will be ranked the highest. Our findings will appear after we have first considered the highest score due to the order in which the scores are generated. If you apply the mobile network application method to the service, you can make a smooth and fast network reception.

1. Introduction

Working is something people will always be doing. One of the jobs is being a helper. The assistant is responsible for maintaining the social acceptability of a company. Assistant activities are regarded as more prominent in administrative activities like photocopying, delivering, and picking up documents, and they are not necessarily involved with maintaining environmental cleanliness. The

assistant manager's assignment is demanding and requires workers with intense physical and mental endurance [1], [2].

For every company, there is a leader who manages its workers. A leader should pay attention to all aspects relevant to his work because attention is the responsibility of the leader. An essential part of the leadership's job is to ensure that the assistant service employees at their organization can perform their job well—assistant an employee with no permanent status in many open-ended companies. The leadership sets the direction for the work that an assistant accomplish. Two tasks must be completed by employees, such as everyday activities and lesser details.

The main job the clerk is expected to perform is assigned administrative duties, and their job description is followed. The assistant also does some other things. Another task is that the assistants are willing to work in an office or company and help out with cleaning personnel. Assistant performance is essential to maintaining the quality of the service. A sense of duty and responsibility is required of all service personnel. The sense of responsibility will lead to increased motivation regarding the task, leading to improved performance [3], [4].

Each company will have its own set of employees. The process for admission usually occurs every five years. In accepting assistant, there are various requirements a potential candidate service must meet. Admission to the program is not quickly done. Decision support systems can be used to provide recommendations from several employees, which will make the company more flexible and efficient in decision-making.

The MFEP method is a method of selecting assistant that human resource specialists can use. The selection of assistant must be conducted using precise calculations to ensure that the highest quality services are selected[5].

The decision support system[6] using the Multi-factor Evaluation Process (MFEP) determines the suitability of assistant by using weight to measure their ability [7], [8]. This approach utilizes precise measurements of pre-defined criteria. The admission criteria for the study include several contributing factors. The score will be determined by utilizing the weight used to determine the balance weight for the MFEP method.

2. Theories
2.1 Multi-criteria Decision Making (MCDM)
Multi-criteria decision making is an approach to decision making that allows for comparison of alternatives to select the one with the highest overall utility. Criteria typically come prepackaged in the form of measurements, rules, or standards. Multiple objective decision making (MODM) and multiple attribute decision making (MADM) have two categories [9]–[11].

There are several pre-specified patterns included in MCDM[12], such as:
1. Alternatives exist and are the same, right next to each other, for decision-makers to choose.
2. Attributes are referred to as decision criteria.
3. The variations among the criteria can sometimes cause conflicts. For example, the cost criterion will conflict with the profit criterion.
4. Factor weight, or decision weight, shows each criterion's relative importance (1, 2, 3,…,). 5. The decision matrix determines the various alternatives' ratings while also taking into account the criteria.

Several methods can be used to solve MCDM problems, including the following:
1. Simple Additive Weighting Method (SAW)
2. Weighted Product Model (WPM)
3. Weighted Sum Model
4. Technique for Order Preference by Similarity to Ideal Solution (TOPSIS)
5. Analytic Hierarchy Process (AHP)

Multi-Criteria Decision Making (MCDM)[13] is one of the most widely used methods in decision-making. The purpose of MCDM is to select the best alternative from several mutually exclusive alternatives based on general performance in various criteria (or attributes) determined by the decision-maker.

There are four steps in decision making in MCDM including:
1. Identify the problem.
2. Setting preferences.
3. Evaluating alternatives.
4. Determine the best alternative. There are m criteria (C1,…, Cm) and n alternatives (A1,…, An). MCDM problems are usually represented in the form of decision tables.

2.2 Multi-factor Evaluation Process
MFEP is a quantitative method that uses a weighting system. In multi-factor decision making, decision-makers subjectively and intuitively weigh the various factors that have an important influence on their choices.
This method is a quantitative method that uses a weighting system. Decision-makers subjectively and intuitively weigh various factors that have an important influence on their choices. It is preferable to use a quantitative approach such as MFEP to be strategically influential.

The advantage of using the MFEP method is that making MFEP decisions provides subjective and intuitive considerations of factors that are considered necessary. These considerations take the form of giving weight to the multi factors involved and considered necessary. The MFEP method stages determine these factors to obtain the order of the factors based on their importance.

In MFEP, all criteria that are essential factors in considering are given an appropriate weighting. The same steps are also taken towards the alternatives that will be selected. It can be evaluated concerning these factors of consideration. The MFEP method determines that the alternative with the highest score is the best solution based on the selected criteria [14].

The steps in the calculation process using the MFEP Method are:

1. Determine the factors/criteria and weight of the factors/criteria where the total weighting must be equal to 1 or 100 ($\sum$ weighting = 1), namely the factor weight.
2. Filling in the value for each factor (criterion) that affects the decision making from the data to be processed, the value that is included in the decision-making process is an objective value, which is certain, namely the factor evaluation whose value is between 0-1 (0-100).
3. The process of calculating the weight evaluation calculates the weight between the factor weight and the factor evaluation with the sum of all the results of the weight evaluations to obtain the total evaluation results.

The value of the weight evaluation (y_{ij}) of an alternative i on the criteria/factor j is the result of the multiplication of the factor weight (w_j) with the factor evaluation (r_{ij}) which is formulated as follows:

$$Y_{ij} = W_j * R_{ij}$$

The total evaluation value or preference value (V_i) of the i-th alternative is the sum of all weight evaluations (y_{ij}) expressed in the following equation:

$$V_i = \sum_{j=1}^{n} W_i * R_{ij} = \sum_{j=1}^{n} Y_{ij}$$

Information:

y_{ij} :   weight evaluation of alternative i on criterion j
w_j :   weight factor the j_{th} criterion
r_{ij} :   factor evaluation of alternative i to criterion j
V_i :   The total evaluation / preference value of the i-th alternative
N   :   number of criteria

4. The ranking process of the Total Evaluation / Preference Value obtained, where the highest score is the best according to the specified criteria/factors

3. Methodology
3.1 Criteria Design
Criteria design are needed to normalize the raw data obtained from the company. It is used to determine the conditions used in determining MFEP calculations. This study uses five criteria. The following tables will present the criteria used in this study.

Table 1. Education

Education	Score
Senior High School	1
Diploma 1	2
Diploma 2	3
Diploma 3	4
Bachelor	5

Table 2. Ride

Ride	Score
No	1
Yes	2

Table 3. Marital Status

Marital Status	Score
Married	1
Not Married	2

Table 4. Location

Location (km)	Score
> 10	1
7 – 10	2
4 – 7	3
2 – 4	4

0 – 2	5

Table 5. Overtime

Overtime	Score
No	1
Yes	2

Tables 1 to 5 determines the value of each criterion in the assistant selection decision support system. Ratings or weights are given on a scale of 1 to 5. The score explains that "1" is for the worst rating while "5" is for the best rating.

4. Result and Discussion
4.1 MFEP Calculation
The trial should be carried out to determine whether the application program that provides a recommendation for assistant is by the manual calculation that will be carried out. The calculation of the application program and the manual calculation of the results must give the same output to avoid calculation errors in the MFEP formula. Several steps must be done, including:
1. Weighting
2. Calculate preference weights
3. Calculating the MFEP Value

The following explanation is a manual calculation in the recommendation of the MFP method in determining assistants.

Table 6. Assistant Data

Code	Assistant	Education	Ride	Status	Location	Overtime
		K1	K2	K3	K4	K5
A1	Assistant 1	D3	Yes	Not Married	11,0	No
A2	Assistant 2	SHS	Yes	Married	2,5	Yes
A3	Assistant 3	SHS	Yes	Married	14,0	Yes
A4	Assistant 4	S1	Yes	Not Married	2,6	No
A5	Assistant 5	SHS	Yes	Not Married	12,0	No
A6	Assistant 6	S1	Yes	Married	3,0	No
A7	Assistant 7	S1	Yes	Not Married	8,2	No
A8	Assistant 8	S1	Yes	Not Married	14,0	No
A9	Assistant 9	SHS	Yes	Married	3,4	Yes
A10	Assistant 10	D3	Yes	Not Married	30,0	Yes

The data in table 6 is the data used as preliminary data for candidate. A total of five criteria are used to support the MFEP calculation process on these problems. The weighting should be done by category in table 7.

Table 7. Weighting Category

Education	Ride	Status	Location	Overtime	Weight
SHS	No	Married	10	No	1
D1	Yes	Not Married	7	Yes	2
D2			4		3
D3			2		4
S1			0		5

Each criterion will be weighted according to the value conversion results in table 7. These criteria must be weighted so that MFEP calculations can be carried out. Each criterion has a value of 1 to 5 each.

Table 8. Weighting Result

Code	Assistant	Pendidikan	Kendaraan	Status	Lokasi	Overtime
		C1	C2	C3	C4	C5
A1	Assistant 1	4	2	2	1	1
A2	Assistant 2	1	2	1	4	2
A3	Assistant 3	1	2	1	1	2
A4	Assistant 4	5	2	2	4	1
A5	Assistant 5	1	2	2	1	1
A6	Assistant 6	5	2	1	4	1
A7	Assistant 7	5	2	2	2	1
A8	Assistant 8	5	2	2	1	1
A9	Assistant 9	1	2	1	4	2
A10	Assistant 10	4	2	2	1	2

The weighting results can be seen in table 8. This value can be calculated based on the weighted preference given. The preference weights are used to determine the balance of the criteria. Table 9 is the preference weights.

Table 9. Preference Weights

	Education	Ride	Status	Location	Overtime	Total
Weight	4	6	50	4	2	**66**
Preference Weights	0,0606	0,0909	0,7576	0,0606	0,0303	**1**
Percentage	6%	9%	76%	6%	3%	**1**

Table 10. Normalization

Code	Assistant	Education	Ride	Status	Location	Overtime
		C1	C2	C3	C4	C5
A1	Assistant 1	0,2424	0,1818	1,5152	0,0606	0,0303
A2	Assistant 2	0,0606	0,1818	0,7576	0,2424	0,0606
A3	Assistant 3	0,0606	0,1818	0,7576	0,0606	0,0606
A4	Assistant 4	0,303	0,1818	1,5152	0,2424	0,0303
A5	Assistant 5	0,0606	0,1818	1,5152	0,0606	0,0303
A6	Assistant 6	0,303	0,1818	0,7576	0,2424	0,0303
A7	Assistant 7	0,303	0,1818	1,5152	0,1212	0,0303
A8	Assistant 8	0,303	0,1818	1,5152	0,0606	0,0303
A9	Assistant 9	0,0606	0,1818	0,7576	0,2424	0,0606
A10	Assistant 10	0,2424	0,1818	1,5152	0,0606	0,0606

Table 9 describes the results of the normalization of the criteria with the given preference weights. The calculation value has a fraction of four decimal places to improve the calculation accuracy of the MFEP method. The results of this normalization will be added up to get the recommended value for each alternative. Table 10 is the calculation result of the MFEP method in the assistant determination.

Table 11. MFEP Result

Code	Assistant	MFEP
A1	Assistant 1	2,0303
A2	Assistant 2	1,3030
A3	Assistant 3	1,1212
A4	Assistant 4	2,2727
A5	Assistant 5	1,8485
A6	Assistant 6	1,5151
A7	Assistant 7	2,1515
A8	Assistant 8	2,0909
A9	Assistant 9	1,3030
A10	Assistant 10	2,0606

Table 10 explains that ten alternatives have been calculated to get the recommendation for the appraisal of participants. This value is still random and unordered. Table 11 is the recommendation result that has been sorted from the most considerable value to the smallest value.

Table 12. Sorted MFEP Result

Code	Assistant	MFEP
A4	Assistant 4	2,2727
A7	Assistant 7	2,1515
A8	Assistant 8	2,0909
A10	Assistant 10	2,0606
A1	Assistant 1	2,0303
A5	Assistant 5	1,8485
A6	Assistant 6	1,5151
A2	Assistant 2	1,3030
A9	Assistant 9	1,3030
A3	Assistant 3	1,1212

5. Conclusion

MFEP calculations and application programming provide several conclusions that can describe the research results that have been achieved. Several conclusions can be drawn from the results of this study. The MFEP method is a suitable method for building assistant determination application programs. Preferential weights can be adjusted and determined to provide variations in the recommendations given in determining assistant power. The resulting MFEP recommendation value has good accuracy and is by the manual calculations performed.

6. Future Work

The results of the research still have several shortcomings that further researchers can develop. Several suggestions can be submitted to develop an application program for the MFEP method in determining assistants. Criteria should be developed in order to provide a better recommendation value. Preference weights can be developed to provide better accuracy and decision results.

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