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Application of Profile Matching in Determining Employee Annual Bonuses

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Abstract

In the competitive business world, companies are required to have an effective and objective performance appraisal system. One crucial aspect of employee performance appraisal is the annual bonus distribution. One effort to improve employee performance is by providing annual bonuses. For this reason, currently, many companies are implementing this bonus so that their employees are motivated to improve and increase the quality of their work. One of them is a CV. Laras Alam Pamekasan. CV. Laras Alam Pamekasan is a company operating in the tobacco sector specifically supplying PT. Djarum Tobacco. Every year, CV. Laras Alam provides annual bonuses according to employee performance. However, bonuses are still based on rough calculations. That's why research was conducted to produce a decision support system in determining employee annual bonuses based on performance. This research uses the Profile Matching method. Profile Matching is one method in performance appraisal systems that uses a comparative approach between employee profiles and predefined ideal profiles. The aspects used in determining employee annual bonuses are the Work Attitude Aspect including criteria, behavior, responsibility, and cooperation. Performance Aspects include criteria, discipline, absenteeism, acceptance of additional assignments, and loyalty. From this research, a trial was carried out on 22 employees and then calculations and rankings were carried out.

Keywords: Application**,** Employee Bonuses, Decision Support Systems, Profile Matching, Criteria.

1. Introduction

In the competitive business world, companies are required to have an effective and objective performance appraisal system. One crucial aspect of employee performance appraisal is the annual bonus distribution. Annual bonuses serve not only as a form of appreciation for employees contributions but also as a motivation tool to enhance overall productivity and performance. However, determining a fair and accurate annual bonus often poses a significant challenge for company management.

The implementation of the Profile Matching method provides an innovative solution to this challenge [1]. Profile Matching is one method in performance appraisal systems that uses a comparative approach between employee profiles and predefined ideal profiles. This method allows companies to conduct evaluations in a more structured and transparent manner, thus providing objective and accurate assessments.

Recent research has shown the effectiveness of the Profile Matching method in various organizational contexts. For example, a study by [2] demonstrated that Profile Matching can serve as decision support in employee performance assessments. Another study by [3] found that the use of Profile Matching reduces biases in performance appraisals, thereby enhancing employee satisfaction and motivation. Furthermore, research by [4] showed that the application of Profile Matching can improve the effectiveness and objectivity of candidate selection in an organization.

Other studies also support these findings. For instance, a study by [5] found that Profile Matching can be used to identify recipients of scholarship programs. Additionally, research by [6] highlighted the use of Profile Matching for Performance Evaluation of Institutions in Universities.

This research will discuss the implementation of Profile Matching in determining annual employee bonuses. The study will explain the basic concept of Profile Matching and its implementation steps. With a better understanding of this method, it is hoped that companies can optimize their performance appraisal processes and annual bonus distributions, thereby creating a more productive and harmonious work environment. The case study will focus on CV. Laras Alam.

CV. Laras Alam is a company engaged in the tobacco industry, specifically supplying tobacco to PT Djarum. One of the most important factors in CV. Laras Alam is its employees. Every year, CV. Laras Alam conducts performance calculations to determine employee bonuses. However, in determining which employees receive bonuses and determining the amount of the bonus, it is still done manually. This is because employee performance assessments only use one indicator, which is the diligence of the employees. Based on this issue,

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the management of CV. Laras Alam needs to have a system that can assist in determining annual employee bonuses. Because, in addition to producing performance rankings, this method can also assist in grouping employee data. This grouping can be used to determine the annual bonuses given to employees.

2. Research Methods

2.1. Profile Matching

The Profile Matching method is chosen because this method is very easy and simple in making decisions by comparing the competencies possessed by employees to the competencies required by the company, so that the differences in competencies (gap) can be known [7][8][9].

The steps in completing the calculations using the profile matching method are as follows [10][11][12]:

1. Determination of criteria, sub-criteria, and value scales.
2. Determination of values for alternatives.
3. Determination of target values.
4. Calculation of the GAP.
5. Conversion from GAP to value weights.
6. Grouping of core factors and secondary factors.
7. Calculation of NCF and NSF values.
   The formula to calculate the Core Factor and Secondary Factor values are as follows:

$$NFC = \sum NS(aspek) \sum IC \quad \text{..... (2.1)}$$

   Where: NCF = average core factor value
   NC (aspect) = sum of core factor values
   IC = number of core factor items

   While the formula for calculating the Secondary Factor is as follows:

$$NFC = \sum NS(aspek) \sum IS \quad \text{.....(2.2)}$$

   NSF = average secondary factor value
   NS (aspect) = sum of secondary factor values
   IS = number of secondary factor items
8. Calculation of total value To calculate the total value, the formula used is:

$$(\boldsymbol{x})\%\boldsymbol{NFC}(\boldsymbol{aspek}) + (\boldsymbol{x})\%\boldsymbol{NSF}(\boldsymbol{aspek}) = \boldsymbol{Ntotal}(\boldsymbol{aspek}) \quad \text{... (2.3)}$$

   Explanation:
   NCF (aspect) = average core factor value
   NSF (aspect) = average secondary factor value
   N (aspect) = total value of the aspect
   (x)% = inputted percentage value
9. Calculation of ranking value

2.2. Employee Bonuses

A bonus is an additional remuneration given to certain employees whose performance is above the standard performance. This bonus serves as a tool to support the principle of fairness in compensation distribution [13].

Employees are one of the most important assets a company has to maintain its survival, growth, and competitive ability, as well as to gain profit. Employees are the main wealth of a company because without their participation, activities will not be carried out. Employees play an active role in establishing plans, systems, processes, and goals to be achieved [14][15].

An employee bonus is an additional income provided by the company beyond the employee's base wage or salary as a reward for performing well.

3. Results and Discussion

3.1. Determination of Criteria

The company divides the evaluation criteria into two aspects: work attitude and performance, with each sub-criterion having a weight value on a scale of 1 to 5 which is shown in table 1 below.

Table 1. Criteria, Sub-Criteria and Value Scales

Criteria	Sub-Criteria	Code	Value Scales
Aspects of Work Attitude	Behavior	SK1	1 – 5
	Responsibility	SK2	1 – 5
	Cooperation	SK3	1 – 5
	Idea	SK4	1 – 5
Performance Aspects	Discipline	K1	1 – 5
	Absence	K2	1 – 5
	Acceptance of Additional Assignments	K3	1 – 5
	Loyalty	K4	1 - 5

3.2. Determination of Values for Alternatives

A total of 22 employees are listed to receive bonuses from the company. These 22 employees have different values. Table 2 shows the employees' scores against the sub-criteria previously determined by the company.

Table 2. Determining the Value of Alternatives

Alternatives	SK1	SK2	SK3	SK4	K1	K2	K3	K4
AAN	5	5	5	1	5	5	5	5
AMRI	5	5	3	5	5	5	4	5
TORIQ	5	5	5	5	5	3	5	5
SAHARI	5	5	5	3	3	4	4	5
SOFYAN	5	5	5	3	5	5	5	4
RIKI	5	5	5	5	3	4	4	4
WAWAN	5	5	5	3	5	3	4	3
DESIR	5	5	5	5	3	4	4	3
WILLY	5	5	3	5	5	3	5	2
DEA	5	5	5	5	3	4	5	3
MIRNA	5	5	3	5	3	3	3	4
EGA	3	5	5	5	3	4	4	2
GUSTA	3	5	5	5	5	3	4	2
MOL	5	5	5	1	5	3	4	3
ARIF	5	5	5	5	5	3	5	1
ROFIQ	3	5	3	5	5	5	4	4
HOLIL	5	5	5	5	3	4	5	5
ROMZI	5	5	3	5	3	5	5	4
ABRORI	3	5	5	1	3	4	5	3
MIFTAH	5	5	3	5	5	4	5	1
KAWI	3	5	5	3	3	4	5	3
TAMIN	5	5	5	3	3	5	5	2

3.3. Determination of Target Values

The next step is to determine the target value shown in table 3 below.

Table 3. Target Values

Aspects of Work Attitude				Performance Aspects			
SK1	SK2	SK3	SK4	K1	K2	K3	K4
5	5	5	5	5	5	5	5

3.4. GAP Calculation

At this stage, the GAP value for each criterion will be determined by calculating the difference between the alternative values and the target values required. Table 4 shows the GAP values for each criterion for every alternative.

Table 4. Perhitungan GAP

Alternatif	SK1	SK2	SK3	SK4	K1	K2	K3	K4
AAN	0	0	0	-4	0	0	0	0
AMRI	0	0	-2	0	0	0	-1	0
TORIQ	0	0	0	0	0	-2	0	0
SAHARI	0	0	0	-2	-2	-1	-1	0
SOFYAN	0	0	0	-2	0	0	0	-1
RIKI	-2	0	0	0	-2	-1	-1	-1
WAWAN	0	0	0	-2	0	-2	-1	-2
DESIR	0	0	0	0	-2	-1	-1	-2
WILLY	0	0	-2	0	0	0	0	-3
DEA	0	0	0	0	-2	-1	0	-2
MIRNA	0	0	-2	0	-2	-2	-2	-1
EGA	0	0	0	0	-2	-1	-1	-3
GUSTA	0	0	-2	0	0	-2	-1	-3
MOL	-2	0	0	-4	0	-2	-1	-2
ARIF	0	0	0	0	0	-2	0	-4
ROFIQ	-2	0	-2	0	0	0	-1	-1
HOLIL	0	0	0	0	-2	-1	0	0
ROMZI	0	0	-2	0	-2	0	0	-1
ABRORI	-2	0	0	-4	-2	-1	0	-2
MIFTAH	0	0	-2	0	0	-1	0	-4
KAWI	-2	0	0	-2	-2	-1	0	-2
TAMIN	0	0	0	0	-2	0	0	-3

3.5. Conversion from GAP to Value Weights

Considering the patterns and range of GAP values from the table, it is known that the GAP values range from 0 to 5. Therefore, a conversion table from GAP values to value weights needs to be prepared, based on a range rounded from -6 (minus six) to +5 (plus five). Referring to the GAP value weight conversion table (Table 5), the GAP values in the previous table will be converted into value weights as shown in the following Table.

Table 5. Conversion from GAP to Value Weights

GAP	Conversion of Weights
0	5
1	4,5
-1	4
2	3,5
-2	3
3	2,5
-3	2
4	1,5
-4	1
5	0,5
-5	0

3.6. Conversion from GAP to Value Weights

The next step is to determine alternative weights according to the GAP shown in table 6 below.

Table 6. Bobot Nilai Per Alternatif

Alternatives	SK1	SK2	SK3	SK4	K1	K2	K3	K4
AAN	5	5	5	1	5	5	5	5
AMRI	5	5	3	5	5	5	4	5
TORIQ	5	5	5	5	5	3	5	5
SAHARI	5	5	5	3	3	4	4	5

SOFYAN	5	5	5	3	5	5	5	4
RIKI	5	5	5	5	3	4	4	4
WAWAN	5	5	5	3	5	3	4	3
DESIR	5	5	5	5	3	4	4	3
WILLY	5	5	3	5	5	3	5	2
DEA	5	5	5	5	3	4	5	3
MIRNA	5	5	3	5	3	3	3	4
EGA	3	5	5	5	3	4	4	2
GUSTA	3	5	5	5	5	3	4	2
MOL	5	5	5	1	5	3	4	3
ARIF	5	5	5	5	5	3	5	1
ROFIQ	3	5	3	5	5	5	4	4
HOLIL	5	5	5	5	3	4	5	5
ROMZI	5	5	3	5	3	5	5	4
ABRORI	3	5	5	1	3	4	5	3
MIFTAH	5	5	3	5	5	4	5	1
KAWI	3	5	5	3	3	4	5	3
TAMIN	5	5	5	3	3	5	5	2

3.7. Calculation of NCF and NSF

After determining the weighted values for each alternative, the next step is to calculate the NCF and NSF values for each alternative according to the work aspects, which will be used in the final determination of performance appraisal and annual bonuses. Table 7 shows the NCF and NSF values for the work attitude aspect, while Table 8 shows the NCF and NSF values for the performance aspect.

Table 7. NCF and NSF for Work Attitude Aspect

Alternatives	CF	CF	SF	SF	NCF	NSF
	SK1	SK2	SK3	SK4		
AAN	5	5	5	1	5	3
AMRI	5	5	3	5	5	4
TORIQ	5	5	5	5	5	5
SAHARI	5	5	5	3	5	4
SOFYAN	5	5	5	3	5	4
RIKI	5	5	5	5	4	5
WAWAN	5	5	5	3	5	4
DESIR	5	5	5	5	5	5
WILLY	5	5	3	5	5	4
DEA	5	5	5	5	5	5
MIRNA	5	5	3	5	5	4
EGA	3	5	5	5	5	5
GUSTA	3	5	5	5	4	5
MOL	5	5	5	1	5	3
ARIF	5	5	5	5	5	5
ROFIQ	3	5	3	5	4	4
HOLIL	5	5	5	5	5	5
ROMZI	5	5	3	5	5	4
ABRORI	3	5	5	1	4	3
MIFTAH	5	5	3	5	5	4
KAWI	3	5	5	3	4	4
TAMIN	5	5	5	3	5	5

Table 8. NCF and NSF for Performance Aspect

	CF	CF	SF	SF	NCF	NSF
Alternatives	K1	K2	K3	K4		
AAN	5	5	5	5	5	5
AMRI	5	5	4	5	5	4,5
TORIQ	5	3	5	5	4	5
SAHARI	3	4	4	5	3,5	4,5
SOFYAN	5	5	5	4	5	4,5

RIKI	3	4	4	4	3,5	4
WAWAN	5	3	4	3	4	3,5
DESIR	3	4	4	3	3,5	3,5
WILLY	5	3	5	2	5	3,5
DEA	3	4	5	3	4,5	4
MIRNA	3	3	3	4	3	3,5
EGA	3	4	4	2	3,5	3
GUSTA	5	3	4	2	4	3
MOL	5	3	4	3	4	3,5
ARIF	5	3	5	1	4	3
ROFIQ	5	5	4	4	5	4
HOLIL	3	4	5	5	3,5	5
ROMZI	3	5	5	4	4	4,5
ABRORI	3	4	5	3	3,5	4
MIFTAH	5	4	5	1	4,5	3
KAWI	3	4	5	3	3,5	4
TAMIN	3	5	5	2	4	3,5

3.8. Calculation of Total Value

The NCF and NSF values for each aspect are then used to calculate the total values as shown in the following Table 9.

Table 9. Total Value

Alternatives	Aspects of Work Attitude		NSK	Performance Aspects		NK
	NCF	NSF		NCF	NSF	
	80%	20%		70%	30%	
AAN	5	3	4,6	5	5	5
AMRI	5	4	4,8	5	4,5	4,85
TORIQ	5	5	5	4	5	4,3
SAHARI	5	4	4,8	3,5	4,5	3,8
SOFYAN	5	4	4,8	5	4,5	4,85
RIKI	4	5	4,2	3,5	4	3,65
WAWAN	5	4	4,8	4	3,5	3,85
DESIR	5	5	5	3,5	3,5	3,5
WILLY	5	4	4,8	5	3,5	4,55
DEA	5	5	5	3,5	4	3,65
MIRNA	5	4	4,8	3	3,5	3,15
EGA	5	5	5	3,5	3	3,35
GUSTA	4	5	4,2	4	3	3,7
MOL	5	3	4,6	4	3,5	3,85
ARIF	5	5	5	4	3	3,7
ROFIQ	5	4	4	5	4	4,7
HOLIL	4	5	5	3,5	5	3,95
ROMZI	5	4	4,8	4	4,5	4,15
ABRORI	4	3	3,8	3,5	4	3,65
MIFTAH	5	4	4,8	4,5	3	4,05
KAWI	4	4	4	3,5	4	3,65
TAMIN	5	5	5	4	3,5	3,85

3.9. Calculation of ranking value

The final step is calculating the final score, determining ranking and bonuses.

Table 10. Final Value, Determination of Ranking, and Bonus Allocation

Alternatives	NSK	NK	Final	Rangking	Bonus
	55%	45%	100%		
AMRI	4,8	4,85	4,8225	1	Rp. 1.800.00
SOFYAN	4,8	4,85	4,8225	2	Rp. 1.800.00
AAN	4,6	5	4,78	3	Rp. 1.800.00
WILLY	4,8	4,55	4,6875	4	Rp. 1.800.00
TORIQ	5	4,3	4,685	5	Rp. 1.800.00

HOLIL	5	3,95	4,5275	6	Rp. 1.800.00
ROMZI	4,8	4,15	4,5075	7	Rp. 1.800.00
TAMIN	5	3,85	4,4825	8	Rp. 1.800.00
MIFTAH	4,8	4,05	4,4625	9	Rp. 1.800.00
ARIF	5	3,7	4,415	10	Rp. 1.800.00
DEA	5	3,65	4,3925	11	Rp. 1.800.00
WAWAN	4,8	3,85	4,3725	12	Rp. 1.800.00
SAHARI	4,8	3,8	4,35	13	Rp. 1.800.00
DESIR	5	3,5	4,325	14	Rp. 1.800.00
ROFIQ	4	4,7	4,315	15	Rp. 1.800.00
MOL	4,6	3,85	4,2625	16	Rp. 1.800.00
EGA	5	3,35	4,2575	17	Rp. 1.800.00
MIRNA	4,8	3,15	4,0575	18	Rp. 1.800.00
GUSTA	4,2	3,7	3,975	19	Rp. 1.600.00
RIKI	4,2	3,65	3,9525	20	Rp. 1.600.00
KAWI	4	3,65	3,8425	21	Rp. 1.600.00
ABRORI	3,8	3,65	3,7325	22	Rp. 1.600.00

In the values above, Sofyan and Amri have the same score. However, since the system displays them alphabetically, Amri appears before Sofyan. Nonetheless, in this case, both of them still receive the same bonus.

4. Conclusion

The Profile Matching method can be utilized as an alternative decision support system in determining the annual bonuses for employees at CV. Laras Alam. Therefore, the use of the Profile Matching method leads to sound decisions in resolving and calculating the alternative values possessed by each employee, thus ensuring accurate outcomes in the process of providing annual bonuses to employees.

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