# IMPLEMENTATION OF 360-DEGREE FEEDBACK AND SAW FOR DECISION SUPPORT SYSTEM OF ACHIEVING TEACHER'S RECOMMENDATION

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## *Abstrak*

Di era industry 4.0 dan society 5.0 saat ini, dunia pendidikan membutuhkan sumberdaya guru yang berkualitas. Guru berperan sebagai pendidik, pengajar, pembimbing, pegarahkan, pelatih, penilai, dan pengevaluasi. Siswa dituntut memiliki kompetensi berpikir kritis, kreativitas dan inovasi, keterampilan interpersonal dan komunikasi, kerjasama tim dan kolaborasi, dan percaya diri. Di SMK Yasbam setiap tahun dilakukan proses pemilihan guru berprestasi. Permasalah yang dihadapi adalah proses pemilihan masih dinilai, diseleksi, dan ditentukan oleh kepala sekolah saja, sehingga masih ada proses yang dirasa tidak transparan, akuntabel, dan adil. Agar proses penilaian lebih fair dicoba menggunakan metode 360-degree feedback yang merupakan penilaian multi sumber dan kemudian dilakukan pembobotan nilai kinerja menggunakan metode Simple Additive Weighting untuk memperoleh rekomendasi guru berprestasi. Responden terdari kepala sekolah, rekan guru, siswa, dan diri sendiri (guru yang dinilai). Selanjutnya kombinasi kedua metode ini diterapkan dalam sistem pendukung keputusan untuk mempermudah proses penilaian dan pemilihan guru berprestasi menjadi lebih objective.

*Kata kunci : guru berprestasi, metode SAW, system penunjang keputusan, umpan balik 360 derajat,*

## Abstract

Education requires quality teacher resources in the current era of industry 4.0 and society 5.0. Teachers act as educators, teachers, mentors, directors, trainers, assessors, and evaluators. Students must have critical thinking competencies, creativity and innovation, interpersonal and communication skills, teamwork and collaboration, and self-confidence. At SMK Yasbam, the selection process for outstanding teachers is carried out every year. The problem faced is that the selection process is still assessed, selected, and determined by the school principal only, so there is still a process that is deemed not transparent, accountable, and fair. To make the assessment process fairer, try using the 360-degree feedback method, a multi-source assessment, and then weighting the performance value using the Simple Additive Weighting method to obtain recommendations for outstanding teachers. Respondents consisted of principals, fellow teachers, students, and themselves (the assessed teachers). Furthermore, combining these two methods is applied in a decision support system to make the assessment process and selection of outstanding teachers more objective.

Keywords: outstanding teacher, 360-degree feedback, SAW method, support system decision

## INTRODUCTION

A teacher is an educator capable of professionally _ guiding, directing, training, assessing, and evaluating participant education through track formal education, good education base, and education medium. In the era of the industrial revolution 4.0 and Society 5.0, students are required to have competencies: 1) critical thinking, 2) creativity and innovation, 3) interpersonal and communication skills, 4) teamwork and collaboration, and 5) self-confidence. Teachers must have pedagogical, personal, social, and professional competencies to achieve this. Teachers are role models, facilitators, inspirations, motivators, work teams, and character value developers, and they trigger grower social empathy in the nation's intellectual life. The role of the teacher can never be replaced by technology. Given the very important role of teachers, teachers should be entitled to an award following their duties and work performance. Yasbam High School is one of the private vocational schools in Bogor that organizes education-based academic and vocational. Currently, Yasbam Vocational School has 45 teachers. In giving appreciation to outstanding teachers. SMK Yasbam every year to make a selection of outstanding teachers. Problems faced are that the process of selecting outstanding teachers is still assessed, selected, and determined by the top school only, so still, there is a process that is assessed not transparent, accountable, and fair.

The study aims to implement the method of *360-degree feedback* and *simple additive weighting* (SAW) in assessing outstanding teachers and applying them to the decision support system to get recommendations for outstanding teachers. Output from the system will become the base policy for the head school to give appreciation.

*360-degree feedback* method is a method of evaluation multi-score used for evaluation subjective will be rated by respondents colleague (teacher), superior ( head of school ), subordinates ( students ), and themselves ( assessed teacher ). Evaluation will conduct with a fill-in questionnaire. Next, the evaluation of the results will be weighted with the evaluation objective using the method of *Simple Additive Weighting* (SAW). Draft base SAW method looks for summation weighted from *performance rating* on each alternative. The alternative used in the testing system is as many as 5 (five) teachers, with criteria: 1) Discipline, 2) Professionalism, 3) Active Training, 4) Personality, and 5) Social Interaction.

Several studies have been conducted on evaluating the performance of teachers, employees, or lecturers, among others, with the application method Analytical Hierarchy Process in decision support system selection of outstanding teachers with criteria evaluation Pedagogic, Professional, Personality, and Social. (Adelina Ibrahim, Abdul Haris Muhammad, 2021) (Rizky Multi Amalia, 2018) (Rizky Multi Amalia, 2018) (Stenly Ibrahim Adam, 2019) (Yusnaeni & Marlina, 2019) . We apply the 360-degree calculation model and K-NN to the information system to assess educators' performance. The assessment attributes used a) attendance, b) main tasks, and c) support, each of which has a different value weight. Questionnaire values were processed using the 360-degree method (Ginting & Afrianto, 2019). (Afrianto, Jaenudin, Ginting, Engineering, & Science, 2019) (Kadafi & Effendy, 2020) . Application of the *Multi-Objective Optimization method based on Ratio Analysis* (MOORA) and *Rank Order Centroid* in the decision support system to obtain the predicate of an outstanding teacher. The criteria used are teaching methods, motivation and innovation, responsibility, problem-solving, insight, and creativity. (Lusiyanti, Setiawan, & Ramadhan, 2022) . Applying the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) to evaluating the performance lecturer. The criteria used are Teaching, Research, Service, Responsibility, Personality, Loyalty, and Leadership Cooperation. (Surya, 2018) (Sukamto, Andriyani, & Wahyuni, 2021) . Assessing employee performance with algorithm method C5.0 with variable position, employee work objectives, service orientation, integrity, commitment, discipline, cooperation, leadership, and assessment status. (Kastawan, Wiharta, & Sudarma, 2018) . Apply the *Simple Additive Weighting* (SAW) method for performance appraisal. The results of the assessment are used to recommend a promotion. The criteria used are Attendance, Attitude/Ethics, Craft, Quality, and Quantity. (Mujiastuti, Komariyah, & Hasbi, 2019) (Saputra, Baba, & Siregar, 2018) Application of the *Profile Matching* method on the performance appraisal system of the village government apparatus. (Muh Ikhsan Amar, 2020) . Application K-Means algorithm to find out lecturer performance group. Lecturer performance groups become excellent, good, moderately good, and less (Sartika & Jumadi, 2019). Lecture Implementation and Learning Outcome Evaluation. In the application of the *fuzzy Sugeno method* for assessing teacher performance. The criteria are divided into good, sufficient, and bad fuzzy sets. (Mustika, 2021) .

Referring to the research that has been carried out, various methods can assess teacher performance. Various criteria can also determine

teacher performance. In this study, based on the results of interviews with principals, the criteria used were: 1) Discipline, 2) Professionalism, 3) Training Activeness, 4) Personality, and 5) Social Interaction. Currently, the determination of outstanding teachers at SMK Yasbam is based directly on principals' subjective selection. This system helps principals determine outstanding teachers, and an information system was built to provide recommendations for outstanding teachers based on the criteria set by the principal.

The performance appraisal methods are *360-degree feedback* and the SAW (*Simple Additive Weighting*) method. The SAW method was chosen because this method provides weighting for each specified assessment criterion, and then a ranking of assessment results is given to get recommendations from outstanding teachers. (Surya, 2018) .

## RESEARCH METHODS

This research uses a qualitative approach. Describe the meaning of research facts through the interview and observation stages of participation and explain the facts that occur in the field. (Fadli, 2021). Compilation of data from how many elements of the assessment is quantitative and qualitative. The calculation of the 360-degree method is used to assess elements of a qualitative nature through questionnaires. (Ginting & Afrianto, 2019). The research methodology is shown in Figure 1.
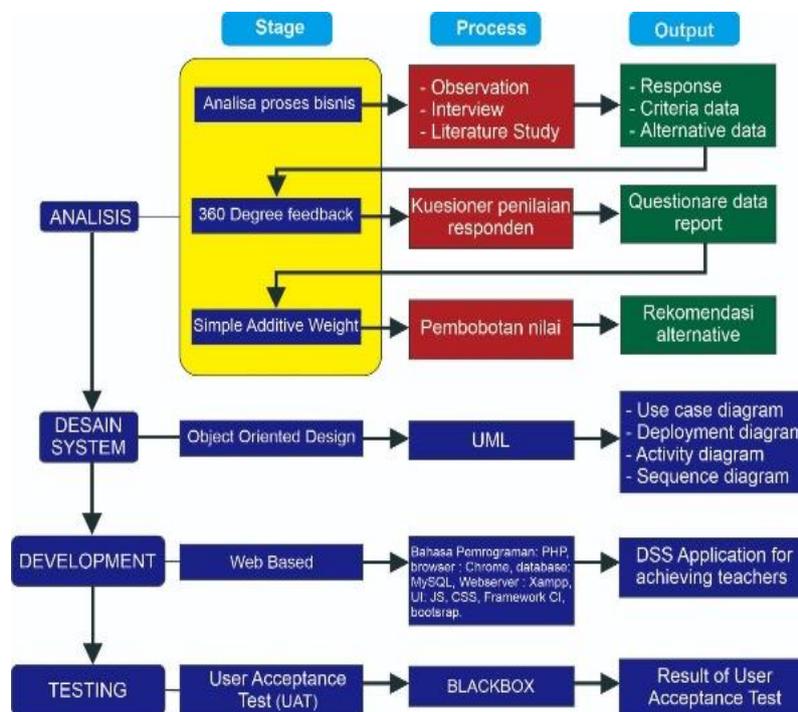

Figure 1. Research Method

**Research Time and Place**

This research was conducted at Yasbam Vocational School, and the time of research was from October 2021 to March 2022.

**Target / Research Subject**

Based on the type of research, the interview and observation stages have been carried out on the research object, which is the reference for forming response data, criteria, and alternatives for making questionnaires. This research targets principal, teachers, students, and themselves.

**Procedure**

The research procedure is based on the research methodology in Figure 1, and the initial stage is the analysis process. At this stage, an understanding of the system that runs through the process of observation, interviews, and literature study will be carried out, and from this process, respondent data, criteria, and alternatives are obtained. After obtaining the data, a questionnaire was compiled and distributed to respondents to obtain an assessment and calculated using the 360-

degree feedback method. The results of the 360-degree feedback calculation will calculate the weight of each criterion using simple additive weighting to obtain recommendations.

The next stage is system design. This process is carried out to describe a decision support system for recommendations for outstanding teachers. The system design starts by describing the running system, the developed system, shown in Figure 2, and the context diagram, shown in Figure 3, and illustrates the system model with UML tools. The resulting diagrams are use case, deployment, activity, sequence, and database system diagrams.

The next stage is a web-based development support system that implements 360-*degree feedback* and SAW methods. The database uses MySql, Xampp web server, and chrome application browser, while the user interfaces use JS, CSS, CI framework, and bootstrap. At a stage, this PHP programming language is used.

The next stage is system testing is carried out. The system is tested by end users ( respondents ) and obtained results of the user acceptance test. Staged this conducted testing support system application decision for ensuring no occur mall function on every process.

**Data, Instruments, and Data Collection Techniques**

Data used in this study are criteria data shown in table 1, alternative data shown in table 2, respondent data shown in table 3, and Data Weight Preference criteria are shown in table 4.

Table 1. Criteria Data

| Criteria Code | Criteria |
|---|---|
| C1 | Attitude Discipline |
| C2 | Professionality |
| C3 | Activity in Training |
| C4 | Personality |
| C5 | Interaction Social |

Table 2. Alternative Data

| No | Alternative | Position |
|---|---|---|
| 1 | M. Nurfadillah, S.Pd.I | eye teacher lesson |
| 2 | Gita Laraswati, SS | eye teacher lesson |
| 3 | Muhammad Ruslan, S. Kom | eye teacher lesson |
| 4 | Yudi Haerudin, S.IP | eye teacher lesson |
| 5 | Dedi Mulyadi, ST | eye teacher lesson |

Table 3. Respondent Data

| No | Respondent | Number (Person) |
|---|---|---|
| 1 | Boss ( Head school ) | 1 |
| 2 | Colleagues ( Teachers) | 8 |
| 3 | Student | 30 |
| 4 | Yourself | 1 |
| Number of respondents | | 40 |

Table 4. Data Weight Preference criteria

| Criteria Code | Criteria | Attribute | Weight Preference |
|---|---|---|---|
| C1 | Attitude Discipline | Benefits | 30% = **0.30** |
| C2 | Professionality | Benefits | 20% = **0.20** |
| C3 | Activity in Training | Benefits | 15% = **0.15** |
| C4 | Personality | Benefits | 20% = **0.20** |
| C5 | Interaction Social | Benefits | 15% = **0.15** |

**The instrument** used to get assessment data from respondents used a questionnaire consisting of 4 (four), namely: a questionnaire for respondent students, a questionnaire for teachers (colleagues) colleagues ), a questionnaire for self themselves (the teacher being assessed), and a questionnaire for head school (supervisor). Component questionnaire based on respondents shown in table 5.

Table 5. Components questionnaire based on respondent

| No | Respondent | Component *Questioner* |
|---|---|---|
| 1 | Head School | Discipline, Professionalism, Personality, Social |
| 2 | Teacher | Discipline, Professionalism, Personality |
| 3 | Student | Discipline, Personality, Professional |
| 4 | Yourself | Discipline, Professionalism, Personality, |

**Data analysis technique with 360-degree feedback method**

The data analysis technique uses the 360 Degree feedback method to get the data from the questionnaire, and then it is processed using Simple Additive Weighting for the value weighting process, and the results of alternative recommendations for outstanding teachers are obtained. The value calculation process is the sum of each respondent's total teacher performance assessments in each criterion. Each answer is given a score as follows. Quantitative value, was obtained from the answers of the respondents. Each answer is given a score as follows: Based on table 3, the number of respondents for the teacher performance assessment is 40 people.

SS  : Very Often  scored = 5
SR  : Often scored = 4
KD  : Sometimes given a score = 3
PR  : Ever given a score = 2
TP  : Never given a score = 1

The value calculation uses the Likert scale parameter with the following stages.

1. Determine the maximum score with the following formula. Max score = 40 x 5 = 200 (number of respondents x highest score).
2. Determine the minimum score with the following formula.
   Min score = 40 x 1 = 40 (number of respondents x lowest score).
3. Grouping the *questionnaires* based on the assessment criteria is shown in table 6.
4. Summing up the total value of each criterion from all respondents is shown in table 6.
5. Calculating the average of the total scores for each criterion from all respondents is shown in table 6.
6. Determine the percentage index value with the following formula.
   Percentage = (R/Score.Max) x 100%
7. Calculates the value scale from the calculation of the percentage index value with the value scale of each predetermined criterion. The results of calculating the value of each respondent are shown in Table 6
8. The results of the value scale conversion obtained are then calculated using the SAW method.

The teacher assessment process with method 360 is shown in table 6 below :

Table 6. Teacher Assessment Results

| No | Evaluator | Component | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1. Discipline | | | | | 2. Professionalism | | | | | | | | | | 3. Personality | | | | | 4. Social | | | | |
| | | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 2.10 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 |
| 1 | H. Deden Iskandar, S.Pd, M.Pd | 4 | 5 | 4 | 5 | 4 | 4 | 3 | 5 | 4 | 5 | 3 | 4 | 3 | 4 | 3 | 5 | 5 | 5 | 5 | 4 | 4 | 4 | 5 | 4 | 5 |
| 2 | Dedi Mulyadi, ST | 5 | 5 | 5 | 5 | 4 | 3 | 3 | 3 | 5 | 3 | 5 | 5 | 4 | 4 | 3 | 4 | 4 | 5 | 4 | 5 | | | | | |
| 3 | M. Nurfadhillah, S.Pd.I | 5 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 4 | 3 | 4 | 3 | 5 | 5 | 5 | 4 | 4 | 5 | | | | | |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 35 | Evie | 4 | 4 | 5 | 5 | 4 | 3 | 3 | 4 | 5 | 5 | 5 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | 5 | 4 | 4 | 5 | 5 | 4 |
| 36 | Dawn | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 5 | 5 | 4 | 5 | 3 | 3 | 5 | 5 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 5 |
| 37 | Siti Sophia Ramdan | 4 | 5 | 4 | 5 | 4 | 3 | 4 | 4 | 3 | 3 | 4 | 4 | 3 | 3 | 3 | 4 | 5 | 5 | 4 | 4 | 4 | 5 | 4 | 5 | 4 |
| 38 | Abdullah Muhammad | 5 | 4 | 5 | 5 | 4 | 3 | 3 | 4 | 5 | 5 | 5 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 4 | 4 | 5 | 4 | 5 | 5 | 4 |
| 39 | Fauzan | 4 | 4 | 5 | 5 | 4 | 3 | 4 | 3 | 4 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 5 | 5 | 4 |
| 40 | Amalia Kartika Dewi | 5 | 5 | 5 | 5 | 5 | 5 | 3 | 3 | 3 | 3 | 4 | 4 | 3 | 5 | 3 | 5 | 5 | 5 | 5 | 4 | 5 | 5 | 5 | 5 | 5 |
| | Amount | 907 | | | | | 1575 | | | | | | | | | | 908 | | | | | 22 | | | | |
| | Average | 181 | | | | | 157.5 | | | | | | | | | | 182 | | | | | 4.4 | | | | |
| | Index ((R : Nmax)x100%) | 91 | | | | | 79 | | | | | | | | | | 91 | | | | | 88 | | | | |
| | Value Scale | 1 | | | | | 0.8 | | | | | | | | | | 1 | | | | | 0.8 | | | | |

From the result evaluation, the respondent obtained a scoring alternative for C1, C2, C4, and C5. At the same time, the C3 data is filled in by the teacher, who is assessed ( self ) himself ). After obtaining scores from the respondents, they are arranged into alternative values that will be used to determine the recommendations of teachers who excel using the SAW method. The alternative values are shown in table 7.

**Data analysis technique with SAW**

Analysis of available data, tools, and materials using the Simple Additive Weighting method to obtain results in recommendations for outstanding teachers. Based on the respondents' assessment through a questionnaire with the 360-degree feedback method, the scores for each alternative are obtained, as shown in Table 7.

Table 7. Alternative Value

| No | Alternative | Criteria Value | | | | |
|---|---|---|---|---|---|---|
| | | C1 | C2 | C3 | C4 | C5 |
| 1 | M. Nurfadillah , S. Pd.I | 92 | 81 | 2 times | 85 | 91 |
| 2 | Gita L., SS | 90 | 80 | 1 time | 83 | 91 |
| 3 | Muhammad Ruslan, S. Kom | 91 | 79 | 3 times | 91 | 88 |
| 4 | Yudi H., S.IP | 89 | 90 | 1 time | 90 | 79 |
| 5 | Dedi Mulyadi, ST | 94 | 81 | 2 times | 80 | 80 |

1) Determination of Match Rating

The value table in table 8 is the result of calculating the value of the feedback questionnaire, and then the value is entered into the match rating table, which is adjusted to the value in the criteria table. The following is a table of the match ratings for each criterion.

Table 8 . Match rating

| No | Alternative | Criteria Value | | | | |
|----|-------------|----|----|----|----|----|
| | | C1 | C2 | C3 | C4 | C5 |
| 1 | M. Nurfadillah , S. Pd.I | 1 | 0.8 | 0.6 | 0.8 | 1 |
| 2 | Gita L., SS | 0.8 | 0.8 | 0.4 | 0.8 | 1 |
| 3 | M. Ruslan, S. Kom | 1 | 0.8 | 0.8 | 1 | 0.8 |
| 4 | Yudi H., S.IP | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 |
| 5 | Dedi Mulyadi, ST | 1 | 0.8 | 0.6 | 0.8 | 0.8 |

2)  Creating a Decision Matrix
Value from table 8 is arranged in the form of a decision matrix as follows:

$$X = \begin{pmatrix} 1 & 0.8 & 0.6 & 0.8 & 1 \\ 0.8 & 0.8 & 0.5 & 0.8 & 1 \\ 1 & 0.8 & 0.8 & 1 & 0.8 \\ 0.8 & 0.8 & 0.4 & 0.8 & 0.8 \\ 1 & 0.8 & 0.6 & 0.8 & 0.8 \end{pmatrix}$$

3)  Matrix Normalization
Matrix normalization is made based on each criterion's type of attribute, which can be benefit and cost attributes. Previously, in table 4, the type of attribute for each criterion, namely benefit, has been determined so that the formula for determining the R-value of each criterion is as Discipline (C1), Professionalism (C2), Active in Training (C3), Personality (C4), and Social (C5). From the above calculation, a value is obtained, which is then entered into the R matrix as follows.

$$X = \begin{pmatrix} 1 & 0.8 & 0.6 & 0.8 & 1 \\ 0.8 & 0.8 & 0.5 & 0.8 & 1 \\ 1 & 0.8 & 0.8 & 1 & 0.8 \\ 0.8 & 0.8 & 0.4 & 0.8 & 0.8 \\ 1 & 0.8 & 0.6 & 0.8 & 0.8 \end{pmatrix}$$

4)  Ranking
The final step in the SAW method is to determine the ranking of each alternative teacher that can be used recommended to be an outstanding teacher. Determine the rank for each teacher based on the value that has been entered into the R matrix. From the results of the calculation of Vi from each alternative teacher, a recommendation table can be made for teachers with high achievement, as shown in Table 9. Table 9 shows the ranking data according to the value obtained. Alternative V3, on behalf of teacher Muhamad Ruslan, S.Kom is the alternative with the first rank, and V1, V5, V2, and V4 in the 2nd, third, fourth, and fifth place who get recommendations as outstanding teachers. The results in table 9 are recommendations to help the principal as a decision-maker.

Table 9. Ranking of Recommendations

| Alternative (V) | Teacher name | Score | Recommended Ranking |
|-----------------|--------------|-------|---------------------|
| V3 _ | Muhammad Ruslan, S. Kom | 0.97 | 1 |
| V1 _ | M. Nurfadillah , S. Pd.I | 0.92 | 2 |
| V5 _ | Dedi Mulyadi, ST | 0.89 | 3 |
| V2 _ | Gita Laraswati , SS | 0.83 | 4 |
| V4 _ | Yudi Haerudin , S.IP | 0.80 | 5 |

**RESULTS AND DISCUSSION**

The assessment results used four questionnaires and were filled out by respondents according to their groups: the principal, peer teachers, teachers being assessed, and students. Forty respondents filled out the questionnaire. The respondent's assessment results were obtained using a 360-degree feedback method that produced alternative values for each criterion (C1, C2, C3, C4, and C5). The alternative values obtained are then processed using a Simple Additive Weighting for the value weighting process and obtained the results of alternative recommendations for outstanding teachers.

Developing a decision support system starts with the system model's design. The model design begins with understanding the system running and describing the business processes shown in Figure 2. The system context diagram is shown in Figure 3. The resulting UML diagram is the use case diagram shown in Figure 4, the activity diagram in Figure 5, and the database in Figure 6.
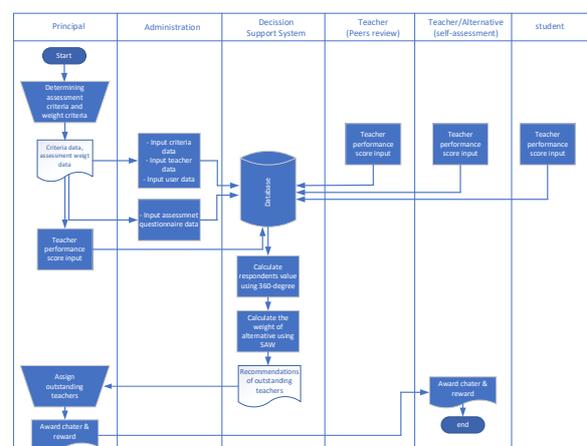


Figure 2. The developed business process system

The principal actor develops a business process. First, determine the assessment criteria and the weight of the criteria, and then the administrative actor inputs the criteria data, teacher data, user data, and assessment questionnaire data. Furthermore, the respondent/assessor is the teacher, in this case, a colleague, the teacher who is being assessed (himself), the principal as a supervisor, and students can fill in the teacher's performance score to be assessed. Next, the system will calculate the value of each alternative with the 360- *degree feedback,* and the system calculates the weight of the teacher's performance with the SAW method and displays the results recommendations for outstanding teachers.



Figure 3 . Context diagram

Context diagram depicted how the system work by comprehensive, easy-identifying use cases. The context diagram showed that 4 ( four ) actors could access the system. Namely, the admin has the authority to input criteria data, respondent data, teacher data ( alternative ), or teacher data to be rated its performance. While the lead actor school, teacher ( alternative ), teacher ( partner colleagues ), and students have the authority to input assessment data to alternative teachers.
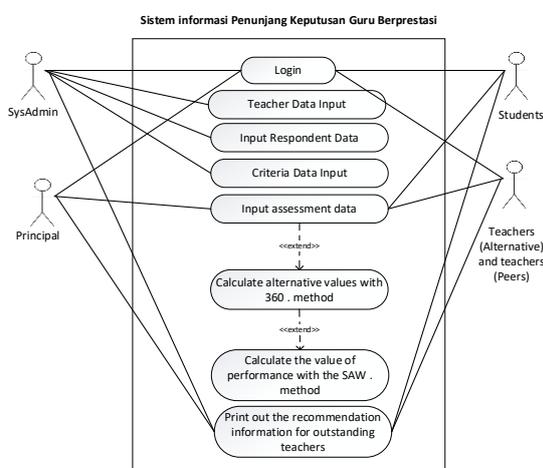


Figure 4. Use case diagram

Use case diagrams to describe what process only can be accessed by actors on the system. The decision support system for an outstanding teacher consists of 8 (eight) use cases: login, input teacher data (alternative), respondent data, criteria data, assessment data, count score alternative, calculate score performance, and print information recommendations for outstanding teachers.
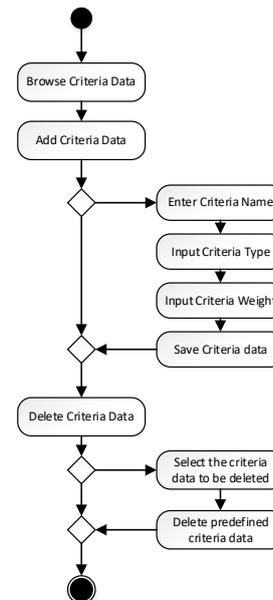


Figure 5. Activity Diagram Criteria Data Input

The administrator will enter instructor data (alternative), respondent data, and criteria data. The respondent will provide rating information. The system records the data entered and assigns a score for each option using a 360-degree feedback mechanism. Next, the system will count the score performance of every alternative with the SAW method, and the system will print high-achieving teacher recommendations based on calculation score weight performance. Figure 5 depicts the activity graph describing how actors interact with the system.
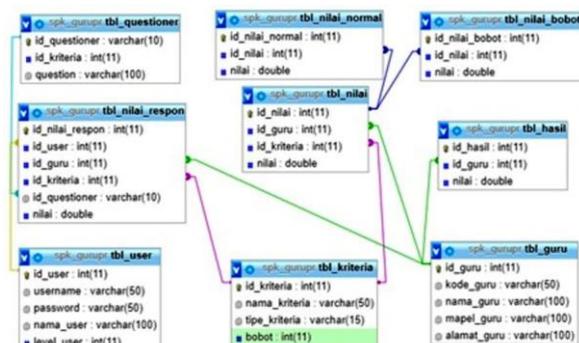


Figure 6. System database relations

To build the decision support system, outstanding teachers needed a database design to record data, as shown in figure 6. The database implemented uses *database MySQL.*

**System Implementation**
Implementation of the system made based on the design is as follows.

**1. System login page**
All users using the application must be registered in the database system. Every user will verify its legitimacy and authorization through the login form; if the user does not register in the system, then the user cannot access the system. Every user must have an account to access the system, and page view login is shown in figure 7.


Figure 7. Page view login

**2. Dashboard Page**
After the user logs into the system, the dashboard form appears and displays menus requiring the user. The dashboard display is divided into four views: Admin, Principal, Teachers, and Students. The page view dashboard for the admin user is shown in Figure 8.


Figure 8 . Appearance page dashboard a dmin

**3. Criteria Data Page**
Figure 9 admin can add criteria data through the criteria data page. Page data criteria are shown in figure 9.


Figure 9. Criteria data page

**4. Page Questionnaire Question**
Figure 10 displays the assessment questionnaire data from each criterion given to the assessor respondents, namely principals, teachers, and students. The page Questionnaire Question is shown in figure 10.


Figure 10. Display of questionnaire data

**5. Calculation Results Page**
The user is given a display of the value results on the value calculation result page divided into initial values, the normalized value, the normalized value-weighted, and the final value. The result is the calculation weight performance in figure 11. Report recommendation, which shows the ranking of each alternative shown in figure 12.

**6. Print result page**
From the calculation results page, there is a print result button. Users can print the value calculation results through the print results page.


Figure 11. Print display

**7. Recommended Report Page**
Figure 12 displays the final score calculation results. This page is displayed to users with teacher and student user levels. The following

image will appear if the teacher or student has not completed the assessment questionnaire.



Figure 12. Display of recommendation results

## CONCLUSIONS AND RECOMMENDATIONS

The discussion could apply several methods for evaluating the performance or performance of employees, teachers, or lecturers for recommending they accept a reward. In research, this 360. method *degree feedback* and the SAW (*Simple Additive Weighting* ) Method were applied to the support system decision to recommend outstanding teachers at SMK Yasbam Bogor. The respondent evaluator consists of 1) colleagues colleague (teacher), 2) head school, 3) students, and 4) teachers who are currently assessed ( alternative or himself). The criteria assessment used are 1) Discipline, 2 ) Professionalism, 3) Active Training, 4) Personality, and 5) Social Interaction. The alternative used _ as many as five alternatives, and 40 respondents ( appraisers ) from results support system calculations decision obtained recommendation first is on name alternative Muhammad Ruslan, S. Kom with score the end of 97 points and is ranked 1 ( one ). The SAW ( *Simple Additive Weighting* ) method is easy to apply but accurate in making decisions about things because of the weighting and the summation analysis of each alternative value. The 360-degree feedback method makes the assessment more objective because superiors, subordinates, and colleagues will assess each teacher.

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