# Decision Support System of the Employees Acceptance using Analytical Hierarchy Process (AHP) and Multi Factor Evaluation Process (MFEP)

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***Abstract*—In every company always need new employees of the younger and potentially. The Program management trainees intended to seek a superior candidate according to the assessment of the company, where later on the presidential candidates who passed the final selection will be given training and education about the management in general. And expected from the program management trainees are able to create a new generation with the soul of the leadership of the high. Decision support system is used to help the decision makers in determining the presidential candidates are eligible to participate in the education and training program management trainees, from five candidates are the only two candidates who received. The criteria and the weight of the specified is interview (0,558), the writing test (0,122), psycho test (0,263), and health test (0,057). The method used is Multi Factor Evaluation Process (MFEP) and Analytical Hierarchy Process (AHP). Both methods to get the same result namely candidates 2 and 4 candidates are entitled to receive from the selection process. For the calculation of the consistency ratio is not there is a value criteria above 0.1 (which is specified by Saaty).**

***Keywords—Decision Support System; Multi Factor Evaluation Process (MFEP); Analytical Hierarchy Process (AHP); Consistency Ratio.***

## I. INTRODUCTION

Each company generally built on the basis of the goal. Of course, not simply goal, but the goal of that really will be accomplished. To achieve that goal, a company cannot possibly be built and run by one person and is needed more than one person with the same goals to achieve the goal of the company. In each organization or company, there is always a process of regeneration to any position. This is usually intended to get new ideas that still fresh from the potential that is owned by the young employees.

This time some companies has opened a new program which is the program management trainees. This Program aims to find superior candidates according to the assessment of the company, where later on the presidential candidates who passed the final selection will be given training and education about the management in general. And expected from the program management trainees are able to create a new generation with the soul of the leadership.

Based on the development of technology that the impact is to facilitate the work of human with the products that have been found and made previously. Many types of development of information technology system, one of them is the decision support system where the system can be used as the tool to provide recommendations to the decision makers to solve specific problems [1], including troubleshooting issues about the selection process on the program management trainees in a company. In the decision support system, required methods for the calculation of such as AHP (Analytical Hierarchy Process) and MFEP (Multi Factor Evaluation Process).

## II. LITERATURE REVIEW

### *A. Decision Support System*

Decision support system stresses on supporting function of decision making across of liquor, as a supporter of the reason of a decision was made by executives as decision-makers. Basically, the decision support system is a system that cannot be separated from the computer technology. In general decision support system function help decision making effectively so that a problem which occurs can quickly get a solution to solve the problem [1].

Decision support system is one type of software that is designed specifically to help in the decision-making process. The purpose of this system is as "information sources" or second opinion that can be used as a material consideration in decision making or certain policies and is a flexible model that allows individuals or groups to form an idea and limit the problem by making their own way to produce troubleshooting or solution to a problem that desired [2].

The goals that based of the decision support system [1]:

1. Help a leader in the decision taken precautions against the problem.
2. It is not a substitute for a leader, but to give support to the decision of the leader.
3. Iimprove the effectiveness of the decision taken by a leader.
4. With the existence of decision support system, allows the decision makers can determine its decision quickly.

5. Increased productivity. Build a certain group for the taking of a decision, especially the experts, will increase expenses. Supporters of the decision by system can reduce the group and allows for members of the group are in different locations.
6. Improve the quality of the taking of a decision.
7. Helpless Stranger management and empowerment of the company resources.
8. Resolve cognitive limitations in processing and storage.

There are 8 components in the Decision support system, [1] :

1. Hardware: will be connected with other computers using a network system so that it is easy to take data on the organization.
2. Software: often referred to as the DSS Generator, contains a module to the database, model and dialog management.
3. Data Source: decision support System Database containing information and data taken from an organization and data a leader in the individual.
4. Source: Model contains the collection of the model / analysis techniques that are stored in the program and the sheaf of different. The Components of this model can be in combine with a software to support a decision.
5. Human Resource: decision support system used by a leader or special staff who are given the confidence to make a decision alternative.
6. Decision Support System Model: The Model is an important component in the decision support system. The meaning of the model means separate from the things that are evident with the main components of the illustrate and connect with the system and other events.
7. Worksheets Electronics: enables users to create models with how to fill the data and connect to it in accordance with the format that has been provided. Users can do some changes and evaluate by graphic display.
8. Group Decision Support System: a system based on the computer that supports specific groups involved in a task or common purpose and provides a view of the interface on the one used with the environment.

A decision was taken to solve a problem, if seen from the structure of the problem can be divided into 3, namely [1]:

1. Structured Decision: the decision taken repeatedly and is routinely. Procedure in decision-making is very clear and the decision made by the management of the bottom level (operational). For example, the decision in the ordering of goods.
2. The Decision of semi-structured: this decision has 2, nature of some of the decision can be taken by the system and some others remain the decision made by the decision makers. In broad outline the decision making procedure is already, but there are some things that still need policies from the decision makers. Usually such decisions are made by the management of mid-level (Tactics). For example, the decision for the rescheduling of production.
3. The decision is not structured: the decision is complex its resolution because it does not always happen or in another meaning it does not routinely happen. This decision is usually made by top level management (Strategic). For example, the decision in recruitment executives.

### *B. Multi Factor Evaluation Process (MFEP)*

Multi Factor Evaluation Process (MFEP) is a quantitative method that uses the weighting System. In the decision-making with multi - factor, decision makers by subjective weighed the various factors that affect the importance of alternative choices they. In MFEP all criteria are an important factor in doing the consideration will be given the appropriate weigh. For an alternative that will be selected will be conducted assessment. Then conducted the evaluation process related to the factor criteria. MFEP method specifies that the alternative with the highest value is the best solution based on the selected criteria [1].

### *C. Analytical Hierarchy Process (AHP)*

AHP is a decision-making tool based on many criteria that has been used for extensive to various application. In the Analytic Hierarchy Process (AHP) developed by Saaty in the 1970s to help decision makers, based on the comparison of a number of criteria. The criteria can be qualitative data, quantitative, or both. The comparison is made between the elements of each hierarchy using a nominal scale. More specifically, AHP provides a procedure for the division is numeric scale for measuring the quantitative and qualitative performance [3,4].

In general, AHP has 4 main steps [5]:

1. The decision makers need to solve problems in the criteria that will be taken as a basis in the decision-making.
2. Comparison between the criteria to determine which criteria more priority compared with other criteria (Determination criteria rank).
3. weigh the criteria, namely each criterion has a different weight.
4. Comparison between the choice for each criterion.

The things that need to be noted is that the giving of the weight of the weight on the 2 elements that will be compared to dramatically reduces the complexity of the conceptual on the analysis that will be done and after we are able to do so with meticulously, analysis will be done using the 3 main stages, [5]:

1. Develop comparison matrix on each of the stages of the hierarchy.
2. Calculate relative weight and priorities for each of the elements in the hierarchy.

3. Calculate the ratio of consistency to assess the consistency of the assessment.

In developing the matrix comparison required the scale of certain scale for measuring. Each of the scale have specific meaning. This is shown in table 1.

TABLE I. THE INTEREST OF SCALE

| *Scale* | *The Meaning* |
|---|---|
| 1 | Equally important (have the same contribution) |
| 3 | A element (criteria / choice) has interests slightly better compared with other elements. |
| 5 | A element (criteria / choice) have better interest compared with other elements. |
| 7 | A element (criteria / choice) have interests which is better than the other elements. |
| 9 | A element (criteria / choice) have the interests of the absolute better compared with other elements. |
| 2, 4, 6, 8 | The value of the interests of 2 elements that compared to have the interests of the adjacent |

In the calculation of the consistency ratio, will be in need the value of RI, which is a random cconsistency index (Random Consistency Index) which basically from a matrix comparison that formed at random. The value of the RI has statutes that created by the developer of AHP method itself, namely Saaty (1980) [5]. The value of RI is shown in table 2.

TABLE II. THE VALUE OF RI BASED ON THE SIZE OF THE MATRIX

| *The Size Of Matrix* | *The Value Of RI* |
|---|---|
| 1 | 0,00 |
| 2 | 0,00 |
| 3 | 0,58 |
| 4 | 0,90 |
| 5 | 1,12 |
| 6 | 1,24 |
| 7 | 1,32 |
| 8 | 1,41 |
| 9 | 1,46 |
| 10 | 1,49 |

In addition, requires the value of RI that based on the size of the matrix located in table 2. There are several steps that must be done to calculate the ratio of consistency, [5] :

1. Calculate Weighted Sum, the results of the weight of each of the candidates for certain criteria, done the multiplication of the value of the scale on matrix. The results of the multiplication obtained a further will be combined total per row.
2. Count Consistency Vector, obtained based on a calculation of the Weighted Sum which has been obtained previously divided by the weight of certain criteria for each candidate.
3. Count Consistency Index, Results that have been obtained in the calculation of Consistency Vector will be used for calculate λ value that is a component of the assessment of the formula calculation consistency index. Calculate the consistency index using the formula (1).

$$CI = ( \lambda - n ) / ( n - 1) \quad (1)$$

Where CI is the Consistency Index, λ is constant, and n is the number of candidates

To calculate values λ, can be done with enumerates all the results obtained from the calculation of Consistency Vector divided by the amount of data that combined total.

4. Count Consistency Ratio, result calculation Consistency Index, used to calculate the ratio of consistency with the way, is divided by the value of RI is obtained based on the table 2, then the formula for calculating the consistency ratio using the formula (2).

$$CR = CI / RI \quad (2)$$

Where CR is the Consistency Ratio, CI is the Consistency Index, and RI is a Random Index.

according to the schedule recommended by The Saaty, if the value of consistency ratio is smaller than 0.1, then the comparison in pairs that formed before, acceptable. But if the value of consistency ratio is greater or equal to 0.1, then consistency ratio indicated that occurs in pairs that are not consistent assessment. So the decision makers must repair the values that formed before until the value of consistency ratio is smaller than 0.1 obtained.

## III. METHODOLOGY

This research is to discuss about a system that is useful for assisting an organization or a company to take a decision in the case of the acceptance of new employees which occurs in a company. This system applies if a company currently requires a new candidate to help in running the vision and mission of the company. In the case of the acceptance of the employees of course each company has certain conditions. Say new employees to the program management trainees. The nucleus of the Program Management trainees is looking for a superior candidate according to the assessment of the company, where later on the presidential candidates who passed the final selection will be given training and education about the management in general. And expected from the program management trainees are able to create a new generation with the soul of the leadership of the high. In general, the conditions for the program management trainees in a company has been specified previously, say the company XYZ, where in this selection that will be accepted only two candidates. Conditions of him as follows:

1. Graduates from S1 all directions / Fresh graduates, GPA > 3.00.
2. Men / Women maximum age 25 years.
3. Willing to follow the bonds of the district during the period of training and education.
4. Willing to be placed in the entire working area.
5. High motivation and results-oriented.
6. Self confidence and creative.

7. Has the ability to communicate.

In this research methods include:

### A. *Literature Review*

In this case is looking for paper and paper related to this research, including for the determination of the criteria that include interview, Writing Test, Psycho test, and Health Test.

### B. *Multi Factor Evaluation Process (MFEP)*

Multi Factor Method Evaluation Process (MFEP) is used to calculate the results of decisions based on the weight of each criteria and the value of the evaluation of each of the candidates per criteria.

### C. *Analytical Hierarchy Process (AHP)*

The Method Analytical Hierarchy Process (AHP) is the same as the method Multi Factor Evaluation Process (MFEP), only the difference is the value of the evaluation is in the change become into the form of matrix. Then continued to calculating process against the Consistency Ratio of each criteria.

## IV. Calculate Analysis And Result

In the calculation of this analysis will be done the calculation with two methods that will be used namely, Multi Factor Evaluation Process (MFEP) and Analytical Hierarchy Process (AHP). The criteria used in this case is an interview, writing test, psycho test, and health test. The criteria would sort based on the priority, as follows:

1. Interview
2. Psycho Test
3. Writing Test
4. Health Test

In addition to the criteria that have been established in this research is also specified number of candidates will be based on the selection criteria that there are as many as 5 candidates namely, Candidates 1, Candidates 2, Candidates 3, Candidates 4, and Candidates 5. To the value of the evaluation which is owned by the candidate against each of the criteria has been obtained the results as table 3.

TABLE III. The Evaluation Value Of Candidate

| *Criteria* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* |
|---|---|---|---|---|---|
| Interview | 7,5 | 8,2 | 6,7 | 9,5 | 6,5 |
| Writing Test | 5,7 | 7,7 | 8,5 | 6,6 | 8,2 |
| Psycho Test | 8,5 | 9,6 | 7,7 | 6,5 | 7,3 |
| Health Test | 7,4 | 6,7 | 8,4 | 7,3 | 9,2 |

### A. *The Calculation Weighted Of Criteria*

In the calculation of the weight of these criteria will be done by the process of comparison between the criteria using the matrix of the scale of the value refers to the table 1.

TABLE IV. Matrix For Weighted Of Criteria

| *Criteria* | *Interview* | *Writing Test* | *Psycho Test* | *Health Test* |
|---|---|---|---|---|
| *Interview* | 1 | 5 | 3 | 7 |
| *Writing Test* | 0,20 | 1 | 0,33 | 3 |
| *Psycho Test* | 0,33 | 3 | 1 | 5 |
| *Health Test* | 0,14 | 0,33 | 0,20 | 1 |
| *Total* | 1,68 | 9,33 | 4,53 | 16 |

TABLE V. Division Of The Scale Value With The Total Value

| *Criteria* | *Interview* | *Writing Test* | *Psycho Test* | *Health Test* | *Sum / 4* |
|---|---|---|---|---|---|
| *Interview* | 0,597 | 0,536 | 0,662 | 0,438 | 0,558 |
| *Writing Test* | 0,119 | 0,107 | 0,074 | 0,188 | 0,122 |
| *Psycho Test* | 0,199 | 0,321 | 0,221 | 0,313 | 0,263 |
| *Health Test* | 0,085 | 0,036 | 0,044 | 0,063 | 0,057 |

From the calculation of the weight of the criteria in table 4 and 5, obtained the result that the criteria interview 0,558, writing test 0,122, psycho test 0,263, health test 0,057. This can be seen on the figure 1.

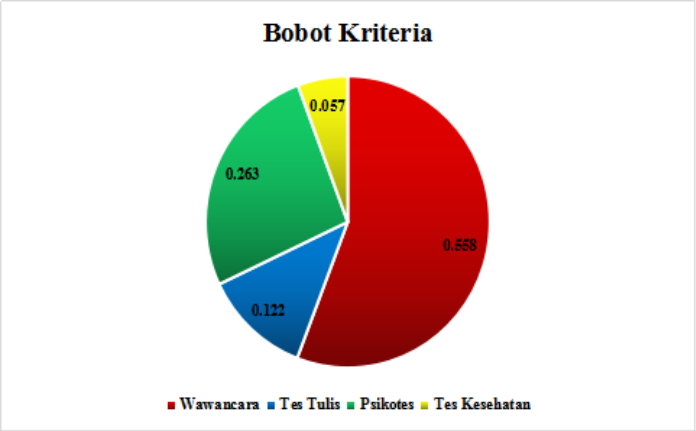


Fig. 1. Weighted Of Criteria

### B. *The Calculation Of Multi Factor Evaluation Process (MFEP)*

In this calculation of the Multi Factor Evaluation Process (MFEP), will calculate the weight of the criteria shown in the picture 1 multiplied by the value of the evaluation of each of the candidates that has been shown in table 3.

Based on the calculation in table 6 and 7 has been obtained the results from the calculation of the Multi Factor Evaluation Process (MFEP) that are eligible to be accepted as the new

employees on the company XYZ is the candidate 2 and candidate 4 with each of the value of 8.42 and 8,23.

TABLE VI. WEIGHTED OF CRITERIA AND EVALUATION VALUE

| *Criteria* | *Weighted Of Criteria* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* |
|---|---|---|---|---|---|---|
| *Interview* | 0,558 | 7,5 | 8,2 | 6,7 | 9,5 | 6,5 |
| *Writing Test* | 0,122 | 5,7 | 7,7 | 8,5 | 6,6 | 8,2 |
| *Psycho Test* | 0,263 | 8,5 | 9,6 | 7,7 | 6,5 | 7,3 |
| *Health Test* | 0,057 | 7,4 | 6,7 | 8,4 | 7,3 | 9,2 |

TABLE VII. THE RESULT OF MULTIPLICATION WEIGHTED OF CRITERIA AND EVALUATION VALUE

| *Criteria* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* |
|---|---|---|---|---|---|
| *Interview* | 4,19 | 4,58 | 3,74 | 5,30 | 3,63 |
| *Writing Test* | 0,70 | 0,94 | 1,04 | 0,81 | 1,00 |
| *Psycho Test* | 2,24 | 2,52 | 2,03 | 1,71 | 1,92 |
| *Health Test* | 0,42 | 0,38 | 0,48 | 0,42 | 0,52 |
| *Total* | 7,54 | **8,42** | 7,28 | **8,23** | 7,07 |

## C. *The Calculation Of Analytical Hierarchy Process (AHP)*

In the calculation of the Analytical Hierarchy Process (AHP) this will calculate the weight of the criteria shown in the picture 1 multiplied by the value of the evaluation of each of the candidates is shown in table 3. But before the value of the evaluation should be changed into a form of matrix with the value of the scale which refers in table 1. To form the matrix is we form a matrix with the comparison between the candidates per criteria.

This calculation is done for the entire matrix comparison of candidates per criteria. After the calculation is done for all the criteria, then will be obtained the results as shown in the table of 10.

Based on the table 11 has been obtained the results from the calculation of the Analytical Hierarchy Process (AHP) that are eligible to be accepted as the new employees on the company XYZ is the candidate 2 and candidate 4 with each of the value of 0,277 and 0,342.

TABLE VIII. MATRIX COMPARISON OF CANDIDATE PER CRITERIA (INTERVIEW)

| *Interview* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* |
|---|---|---|---|---|---|
| *Candidate 1* | 1 | 0,33 | 3 | 0,14 | 5 |
| *Candidate 2* | 3 | 1 | 5 | 0,20 | 5 |
| *Candidate 3* | 0,33 | 0,20 | 1 | 0,11 | 3 |
| *Candidate 4* | | | | | |
| *Candidate 5* | 0,20 | 0,20 | 0,33 | 0,11 | 1 |
| *Total* | 11,53 | 6,73 | 18,33 | 1,57 | 23,00 |

TABLE IX. DIVISION OF THE SCALE VALUE WITH THE TOTAL VALUE

| *Interview* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* | *Sum / 5* |
|---|---|---|---|---|---|---|
| *Candidate 1* | 0,087 | 0,050 | 0,164 | 0,091 | 0,217 | 0,122 |
| *Candidate 2* | 0,260 | 0,149 | 0,273 | 0,128 | 0,217 | 0,205 |
| *Candidate 3* | 0,029 | 0,030 | 0,055 | 0,071 | 0,130 | 0,063 |
| *Candidate 4* | 0,607 | 0,743 | 0,491 | 0,639 | 0,391 | 0,574 |
| *Candidate 5* | 0,017 | 0,030 | 0,018 | 0,071 | 0,043 | 0,036 |

TABLE X. WEIGHTED OF CRITERIA AND RESULT OF MATRIX CALCULATION

| *Criteria* | *Weighted Of Criteria* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* |
|---|---|---|---|---|---|---|
| *Interview* | 0,558 | 0,122 | 0,205 | 0,063 | 0,574 | 0,036 |
| *Writing Test* | 0,122 | 0,033 | 0,183 | 0,457 | 0,062 | 0,266 |
| *Psycho Test* | 0,263 | 0,251 | 0,523 | 0,125 | 0,035 | 0,067 |
| *Health Test* | 0,057 | 0,101 | 0,045 | 0,250 | 0,084 | 0,520 |

TABLE XI. THE RESULT OF MULTIPLICATION WEIGHTED OF CRITERIA AND RESULT OF MATRIX CALCULATION

| *Criteria* | *Candidate 1* | *Candidate 2* | *Candidate 3* | *Candidate 4* | *Candidate 5* |
|---|---|---|---|---|---|
| *Interview* | 0,068 | 0,114 | 0,035 | 0,320 | 0,020 |
| *Writing Test* | 0,004 | 0,022 | 0,056 | 0,008 | 0,032 |
| *Psycho Test* | 0,066 | 0,138 | 0,033 | 0,009 | 0,018 |
| *Health Test* | 0,006 | 0,003 | 0,014 | 0,005 | 0,030 |
| *Total* | 0,144 | **0,277** | 0,138 | **0,342** | 0,100 |

## D. *The Calculation Of Consistency Ratio*

In calculating the Consistency Ratio, there are 4 steps that must be done is to count the Weighted Sum, Consistency Vector, Consistency Index, and the last one is the Consistency Ratio. This can be seen on the figure 2.

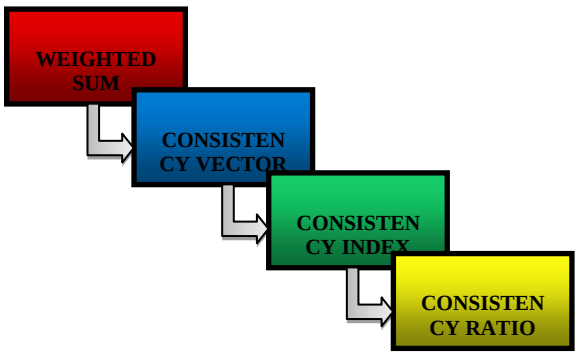

Fig. 2. The steps of Calculation for Consistency Ratio

1. Weighted Sum

The results of the weight of each of the candidates for certain criteria (interview) in table 9, done the multiplication of the value of the scale on the matrix that has been shown in table 8. The results of the multiplication obtained a further will be combined total per row.

TABLE XII. THE RESULT OF CALCULATION FOR WEIGHTED SUM

| | ***Candidate 1*** | ***Candidate 2*** | ***Candidate 3*** | ***Candidate 4*** | ***Candidate 5*** | ***Total*** |
|---|---|---|---|---|---|---|
| ***Weighted Sum Of Interview*** | 0,122 | 0,068 | 0,189 | 0,082 | 0,180 | 0,641 |
| | 0,365 | 0,205 | 0,315 | 0,115 | 0,180 | 1,180 |
| | 0,041 | 0,041 | 0,063 | 0,064 | 0,108 | 0,316 |
| | 0,852 | 1,027 | 0,566 | 0,574 | 0,323 | 3,342 |
| | 0,024 | 0,041 | 0,021 | 0,064 | 0,036 | 0,186 |

Based on the results of the calculation of the weighted sum on the table 12, obtained the results of weighted sum 0,641, 1,180, 0,316, 3,342 and 0,186.

2. Consistency Vector

Obtained based on a calculation of the Weighted Sum which has been obtained in table 12 divided by the weight of certain criteria (interview) for each of the candidates in table 8.

TABLE XIII. THE RESULT OF CALCULATING FOR CONSISTENCY VECTOR

| ***Consistency Vector*** | |
|---|---|
| ***Interview*** | 5,26 |
| | 5,75 |
| | 5,03 |
| | 5,82 |
| | 5,18 |

Based on the results of the calculation of consistency vector in table 13, obtained the results of consistency vector 5,26, 5.75, 5.03, 5.82, and 5,18.

3. Consistency Index

The results that have been obtained in the calculation of consistency vector is shown in table 13, will be used to calculate the value of λ which is a component of the assessment of the formula calculation consistency index. Calculate the consistency index using the formula (1).

$\lambda = (5{,}26 + 5{,}75 + 5{,}03 + 5{,}82 + 5{,}18) / 5$
$\lambda = 5{,}41$

After getting the value of λ, then calculate values consistency index.

$CI = (5{,}41 - 5) / (5 - 1)$

$CI = 0{,}10$

Then obtained the result that the value of CI (Consistency Index) is 0,10.

4. Consistency Ratio

The results of the calculation of the Consistency Index, used to calculate the ratio of consistency with the way, is divided by the value of RI is obtained based on the table 2. The calculations will use the formula (2).

$CR = 0{,}10 / 1{,}12$
$CR = 0{,}09$

Based on the process of calculation of consistency ratio (start from the Weighted Sum) obtained the results of consistency ratio is based on the criteria interview, the result is 0.09. The process of this calculation is applied also to other criteria, 0.08 to write test, 0.07 to psycho test, and 0.07 to health test.

If refers to the terms recommended by The Saaty, which states that the standard value of consistency ratio is smaller than 0.1, then obtained the result that the value of consistency ratio of each criteria for smaller than 0.1. This may indicate that the criteria that there can be said consistent.

## V. CONCLUSION

From some of the discussion that has been presented, can be concluded that the criteria specified (based on the priority) in this research is the interview, psycho test, write test, and health test. For a number of candidates have been specified in this research five candidates. This research is specified on the company XYZ and to the acceptance of the employees on the program management trainees. And for the number of employees to search for only 2 candidates.

The calculation of the Multi Factor process Evaluation Process (MFEP) only calculate the weight of the criteria with the value of the evaluation of each candidate. While the Analytical Hierarchy Process (AHP), with Multi Factor Evaluation Process (MFEP) namely calculate the weight of the criteria with the value of the evaluation of each candidate, but before the value of the evaluation is processed in the calculation of the matrix in order to perform comparison pairs (between candidates) and equipped with the calculation of the consistency ratio. If seen from the process of the calculations, Analytical Hierarchy Process (AHP) more complex compared with Multi Factor Evaluation Process (MFEP).

The calculation of the data with both methods, have the same result, namely candidates who qualify is received by the candidate 2 and Candidate 4 with each of the value of 8.42 and 8,23 (for MFEP) and 0,277 and 0,342 (for AHP). And both methods can provide recommendations to decision makers.

The calculation of the consistency ratio is carried out against all the criteria namely, 0.09 to interview, 0.08 to write test, 0.07 to psycho test, and 0.07 to health test. Based on the terms recommended by The Saaty, which states that the standard value of consistency ratio is smaller than 0.1, then

obtained the result that the value of consistency ratio of each criteria for smaller than 0.1. This may indicate that the criteria that there can be said consistent.

## REFERENCES

[1] Heny Pratiwi. Sistem Pendukung Keputusan Penentuan Karywan Berprestasi Menggunakan Metode Multi Factor Evaluation Process (Decision Support System For Determination Of Employees Perform Use Multi Factor Evaluation Process Method). Jurnal Sistem Informasi, September 2014; Vol.5 No.2 : p.95-101.

[2] Ita Arfyanti And Edy Purwanto. Aplikasi Sistem Pendukung Keputusan Pemberian Kelayakan Kredit Pinjaman Pada Bank Rakyat Indonesia Unit Segiri Samarinda Dengan Metode Fuzzy Madm (Multiple Attribute Decission Making) Menggunakan Saw (Simple Additive Weighting) - (Decision Support System Application For Giving Loan feasibility on the Bank Rakyat Indonesia Unit Segiri Samarinda With Fuzzy Madm method (Multiple Attribute Decission making) using SAW (Simple Additive Weighting). Seminar Nasional Teknologi Informasi & Komunikasi Terapan, Juni 2012; p.119-124.

[3] Sina Khanmohammadi And Mandana Rezaeiahari. AHP Based Classification Algorithm Selection For Clinical Decision Support System Development. Procedia Computer Science, 2014; p.328-334.

[4] Suvendu Chanda Nayak and Chitaranjan Tripathy. Deadline Sensitive Lease Scheduling in Cloud Computing Environment Using AHP. Journal of King Saud University - Computer And Information Sciences, 2016.

[5] Sri Hartati And Adi Nugroho. Sistem Pendukung Keputusan Berbasis AHP (*Analytical Hierarchy Process*) Untuk Penentuan Kesesuaian Penggunaan Lahan (Studi Kasus: Kabupaten Semarang) - (Decision support system based on AHP (Analytical Hierarchy Process) for the determination of the suitability of the use of the land (Case Study: Kabupaten Semarang)). Jurnal Informatika, Juli 2012; Vol.6 No.2 : p.630-641.