APPLICATION OF FUZZY ANALYTICAL HIERARCHY PROCESS IN IMPROVING DECISION MAKING IN RECRUITMENT PROCESS IN LYS CORPORATION

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A Thesis presented to the Faculty of Engineering President University in partial fulfillment of the requirements of Bachelor Degree in Engineering Major in Industrial Engineering

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THESIS ADVISOR RECOMMENDATION LETTER

This thesis entitled **"Application of Fuzzy Analytical Hierarchy Process in Improving Decision Making in Recruitment Process of LYS Corporation"** prepared and submitted by **Yosafat Sobratu** in partial fulfillment of the requirements for the degree of Bachelor Degree in the Faculty of Engineering has been reviewed and found to have satisfied the requirements for a thesis fit to be examined. I therefore recommend this thesis for Oral Defense.

Cikarang, February , 2017

Hery Hamdi Azwir M.T.

DECLARATION OF ORIGINALITY

I declare that this thesis, entitled **"Application of Fuzzy Analytical Hierarchy Process in Improving Decision Making in Employee Selection Process of LYS Corporation"** is, to the best of my knowledge and belief, an original piece of work that has not been submitted, either in whole or in part, to another university to obtain a degree.

Cikarang, February , 2017

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ABSTRACT

Recruitment is one of the crucial aspect for a company, because the success of a business or an organization is directly linked to the performance of those who work for that organization. Therefore, the employee selection and recruitment should have proper standard and criterion as the base qualification in acquiring employees. This research aim to analyze the recruitment problem in LYS Corporation. The recruitment process has no proper criterion and quantitative calculation to take decision. Those problems giving tendency high subjectivity in recruiting. It is also found sometimes the company had a problem in choosing the best candidates especially in a huge amount of applicant. Therefore, to improve the recruitment and employee selection problems by the implementation of Fuzzy Analytical Hierarchy Process method. This method provides a measured result that joint qualitative evaluation into quantitative. The research result shows the method can help to compare all candidates towards criterion in a proper way and also ranks of candidates based on Fuzzy AHP method calculation.

Keywords: *Recruitment Process, Employee Selection, Fuzzy AHP, Uncertainty Decision, Assessment.*

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Aggregate Value	:	Triangular Fuzzy Number Combination value of decision maker's preference value
Consistency	:	conformity in the application of something, typically that which is necessary for the sake of logic, accuracy, or fairness
Criterion	:	Standard by which a recruitment can be judged or decided
Fuzzy Logic	:	A multi-valued logic that cannot be defined precisely as it deals with reasoning that approximate rather fixed and exact
Geometric Mean	:	Type of average where the decision is taken by more than one person toward a criterion
Hierarchy Design	:	A structure or arrangement of goal, criteria, sub-criteria and alternatives in the research
Indicator	:	Standard by which a criterion can be judged or decided
linguistic variables	:	a variable whose values are words in a natural language
Normalized Value	:	The result of standardization process and it can be said as the weight

Recruitment	:	process of selecting and appointing suitable candidates for jobs (either permanent or temporary) within an organization
Pairwise Comparison	:	Make judgments about the relative importance of two elements at a certain level in relation to the level above it.

CHAPTER I
INTRODUCTION

1.1 Problem Background

Advances in technology in this generation is very influential on the life of the company. As the impact of globalization that swept the world, each organization / company should prepare for the global life that filled competitions and challenges. In this situation, every organization / company needs to prepare qualified human resources, in order to provide service that meets the quality standards of the company. The success of a business or an organization is directly linked to the performance of those who work for that organization. Qualified employees, namely employees with the will to work hard, innovate professional and high morality, and competitive in order to achieve company goals.

Employee is one of the assets of the company and serves as the capital (non-financial) which is very influential for the company. Therefore, raising mutual symbiosis between companies and its employee is necessary because the company needs their human capital to achieve business objectives and workforce require the presence of the company in order to meet the material necessities of life. It is vital that organizations select people with qualities for continuous success in highly competitive, emphasize the massive effect of globalization. The main method for making this progress is through appropriate recruitment and employee selection process. Recruitment and selection processes are the base qualification and standard of the company and every organization has its own requirements in acquiring employees. Every prospective candidate is expected to process qualification above the company's standard.

According to Randall S. Schuler and Susan E. Jackson (1997) in Nuryanta Nana (2008), Recruitment is defined as the process of searching various number of candidates who are qualified in a specific number of them so that the organization or company can choose the most proper individual to fill opportunities exist. And Nitisemito (1996) supports with statement that the purpose of the selection process is carried out to get "The Right Man in the Right Place". Through the recruitment

and selection process, assessment of employee candidates is a crucial step. It has the important role to play in ensuring worker performance and positive outcomes. A good recruitment and selection process should have number of criteria or qualities to assess and standardize the employees. The assessment criteria should be integrated and related with the company's goals. Standardizing expected candidates required criteria of assessment to be prepared and measured with all decision makers' consideration.

Recruitment Decision will have long term and huge effect for the company. Therefore, the importance of the decision in choosing the employee is very noteworthy. It is known that the current recruitment system produces uncertainty decisions. Moreover, subjectivity in assessment process is happened. This problem is caused by unstandardized criterions and descriptions in some recruitment process, such as Interview session. The problem also affect the decision rule because there is no proper calculation in assessing the candidates.

Lack of proper calculation in taking a decision is another reason that causes subjectivity in choosing and prioritizing the candidates. It was stated by Shout and Trivedi (2013) stated that rating could become a very important and crucial process which uses man perception and judgement which inherently ambiguity the process of making decisions and fuzzy result.

Based on the mentioned problem, the development and improvement in assessment the recruitment criteria will be analyzed in this report. The recruitment or employee selection has quite much criteria to be taken into consideration. The uncertainty in recruitment decision issue consists of various criteria, frequently the criteria also have sub-criteria as well. Humans are unsuccessful in making quantitative predictions. Essentially, the uncertainty in the preference judgements give rise to uncertainty in the ranking of alternatives as well as difficulty in determining consistency of preferences. These applications are performed with many different perspectives and proposed methods for fuzzy AHP. In this research, Buckley's model of Fuzzy AHP is formulated for recruitment problem.

1.2 Problem Statement

The problem background that has been stated leads to the statement below:

- How to improve the recruitment standard especially for criteria, sub-criterion, and assessment descriptions of the Recruitment and Selection Process?
- How to get an appropriate weight of recruitment criterion to reduce the uncertainty in decision making?
- How to apply Fuzzy AHP method with current decision rule in Recruitment process?

1.3 Objectives

Several objectives are stated in order to be attained in this research. The objectives are:

- To determine criteria and sub-criteria of recruitment and selection process that will become the assessment descriptions.
- To determine the appropriate weight of each recruitment criterion.
- To reduce the uncertain assessment and decision in choosing the candidates.

1.4 Scopes and Limitations

Due to limited time and resources in doing this research, the scopes are given to focusing this research. The scopes are:

- The observation was conducted from May – December 2016 with the latest condition on recruitment and selection process in LYS Corp.
- All research data was collected from Human Resource Department.
- This research took the data of applicant for June 2016 recruitment vacancy.

1.5 Assumption

Assumption has made in order to cover some areas.

- The determination and improvement of recruitment and selection criteria is approved and supported by Human Resources Department and Recruitment Coordinator.
- There were only 2 position which opened for recruitment in staff level at June 2016 recruitment vacancy.

1.6 Research Outline

Chapter I Introduction

This chapter consist of the background of research, problem identification, objectives, scope, assumption of the study, and the description of the research outline.

Chapter II Literature Study

This chapter explains about the theories used for conducting the research process. It gives the fundamentals of knowledge about all the methods used in this research. The literature study serves as the support in cultivating and analyzing data collected both directly and indirectly. It also defines methods that used in this report, which is Fuzzy analytical hierarchy process in decision making.

Chapter III Research Methodology

The steps and flow process of this research are explained. It will capture the research steps overall, Begin with identifying problem until the conclusion of the research.

Chapter IV Data Collection and Calculation

The observation data collected is processed and analyzed in this chapter. This chapter also consist of current recruitment and selection procedure, problem identification of recent situation, the determination of recruitment criteria improvement, the weight calculation of recruitment criteria by using Fuzzy AHP approach, assessment descriptions determination, and also recruitment result classification by using Fuzzy approach

Chapter V Conclusion and Recommendation

The conclusion will be stated in this chapter in lieu answering the problem statement and research. In addition, this chapter also gives the recommendation for further research in purpose of recruitment and selection development.

CHAPTER II
LITERATURE STUDY

2.1 Recruitment

Recruitment system is a process of withdrawal (recruitment) a number of potential candidates to be selected to be an employee and encourage and give hope to candidates to apply for jobs at the company. Withdrawal successful if many applicants who enter their applications to the company so that the chance of getting a good employee is wide open and the company can choose the best from the good (Sastrohadiwiryo, 2005).

According to Faustino Cardoso Gomes (1995) Recruitment is the process of searching, finding and attracting applicants to be employed in and by an organization. Recruitment is a two-way communication process. Applicants require accurate information about what it feels like to work in the organization concerned. The organizations wanted accurate information on such as whether the applicants if they are appointed as future employees.

2.1.1 Type of Recruitment

Based on Andrew F. Sikula, there is two types of recruitment system, which are;

1. **Successive-Hurdles**

   A selection system implemented by the order of testing, i.e. if the applicant does not pass on a testing, he cannot follow subsequent testing and the applicant is disqualified or failed. Here is the figure of Successive-Hurdles recruitment illustration.

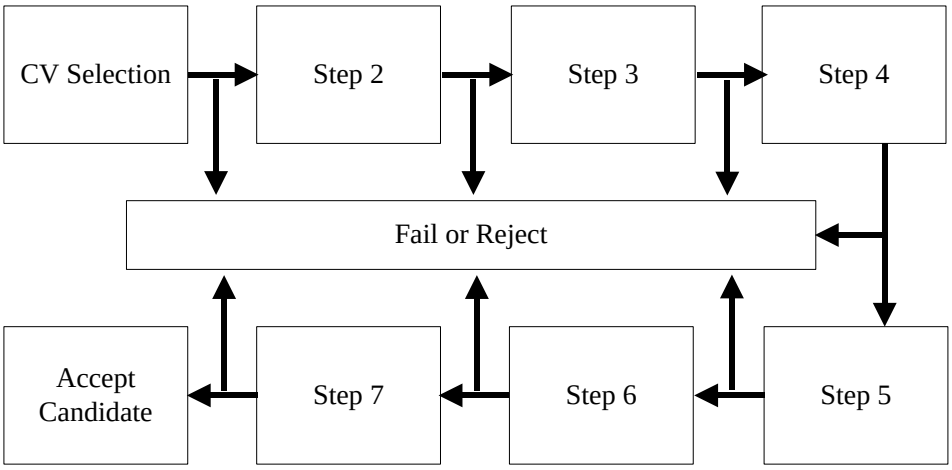

Figure 2.1 Successive-Hurdles Recruitment

2. **Compensatory-Approach**

   System selection is done by the applicant to follow the entire testing, and then calculated the average value test whether reach standard or not. Applicants who achieve the standard values will state as passed, otherwise disqualified or failed.

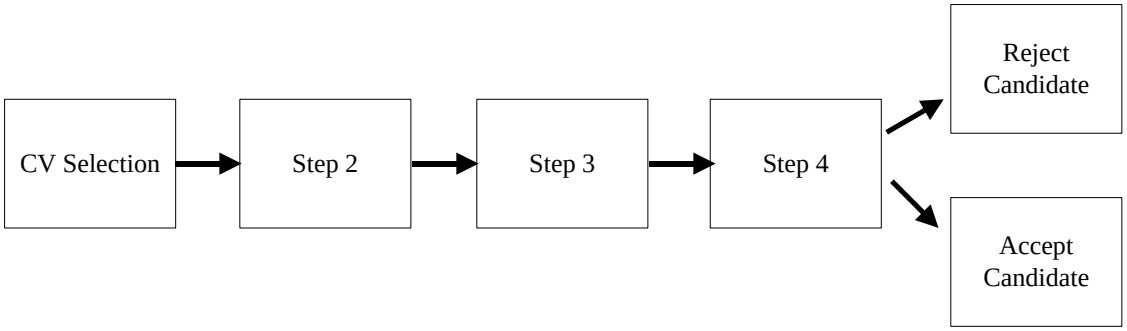

Figure 2.2 Compensatory-Approach Recruitment

2.1.2 Purpose of Recruitment

According Nitisemito (1996) the purpose of the selection process is carried out to get "The Right Man in the Right Place". In the selection process the company must get the right workforce in the right position as well.

Thus, general purpose of recruitment by Schuler and Jackson objectives are:

- In order to find the employee who are loyal to the organization.
- To determine the recruitment needs of companies in the present and the future with regard to major changes in the company, human resource

planning, job design and job analysis.

- To support the company's initiatives in managing a diverse workforce.
- To help in improving the success of the selection process by reducing prospective employees who clearly are not qualified or too high qualifications.
- To help reduce the possibility of the release of employee who work.
- To coordinate recruitment efforts with the selection and training program.
- To evaluate the effectiveness of various techniques and recruitment locations for all types of job applicants.
- To fulfill its responsibility to programs of social action and legal considerations according to the composition of the workforce.

2.1.3 Common Problem and Requirement in Recruitment Process

There are some common problem that usually occur in recruitment process, which are:

- Criterion and Indicator, which is difficult to define a standard that will be used to measure the qualifications of selection objectively. For example; honesty, loyalty and initiative of applicants experiencing difficulties. Weighting values given are based on subjective considerations.
- Selectors, i.e. difficulty getting selectors proper, fair and assess objectively. Selectors often give top consideration his role, not on the physical mind, even the influence of the 'halo' effect is difficult to avoid.
- Applicants, which is difficult to get an honest answer from the applicant. They always try to give answers regarding things okay about himself, while the negative ones are hidden.

To reduce these constraints, the necessary discretion multilevel selection, as more and more levels of the selection made more meticulous and thorough recruitment.

According Sastrohadiwiryo, (2005) employee's placement procedures must meet the requirements, namely:

- There should be empowered to put personnel coming from the personnel list that was developed through the analysis of labor.
- Must have a standard by which to compare the candidates for the job, was stated by the standard job specification which was developed through job analysis.
- Must have job applicants to be in the selection to be placed.

2.1.4 General Recruitment Process

Recruitment system in accordance with the procedures of recruitment companies, the activities of recruitment carried out in accordance with the guidelines prescribed by the recruiting company, so get employees as needed. The descriptions of the recruitment procedures of the company's recruitment system are (Hasibuan, 2013):

a. Interview

   The interview is an interview which held by top managers / supervisors with an applicant to undertake an assessment of the potential ability of applicants, positions, placement and tasks to be performed applicants, because the top managers / supervisors who will be the direct supervisor if the applicant is accepted to work.

b. Academic Potential Test

   Academic Potential Test is a test that aims to identify talent and ability in the field of science or academia are often associated with intelligence. Because Academic Potential Test identical to test the Graduate Record Examination (GRE) as an international standard college admissions requirements.

c. Psychological Test

   Psychological Test is the mental process of testing the ability of applicants to measure intelligence, personality, potential, types of jobs that fit as well

as measure the performance of the work presented in accordance with the desired selectors.

d. Test Medical Check-Up

Test Medical Check-Up is doing a medical evaluation by requiring applicants to undergo a thorough medical examination by a doctor in place of examination and determined organization, to ensure that applicants are in healthy physical condition.

2.1.5 Recruitment Decision Mechanism

Human resource experts still have some problems how to utilize the resources to find a best decision in choosing person from recruitment process. There are four factors of methodology which integrate information and make the selection decision, which are additive model, the cutoff double, double obstacle, and matching profiles.

a. Additive Model / compensatory

Additive model is a pure statistical approach to making selection decisions. When using an additive model, human resources specialists simply lays out the test scores obtained job applicants to some regular number, then add it.

Additive model is compensatory in the sense that the highest score on one characteristic can cover low scores on other characteristics. High scores on the mechanical ability to offset low scores on the experience and interviews.

b. Multiple Cut Off

If the assumptions compensatory relationship between predictor variables are not appropriate, other decision-making methods may be required. In the method of cutoff double (multiple cutoff), the applicant is required to have a minimum level of each predictor variable. Separating a double-selection models that non-compensatory.

c. Multiple Hurdle

In the additive model and a double split, the decision is not sequential. Each applicant followed all predictor tests, and then organization took the decision to appoint or reject applicants. Selection is more often a process in tandem, in which the applicants through several stages of tests before being selected to be inducted as an employee. Double hurdle method (multiple hurdle) is an approach to multiple consecutive cutoffs.

One of the difficulties is the double hurdle Definition restriction range. In the first stage of the process, samples of job applicants is relatively unrestricted. By the time applicants to go on to the next process, a growing number of applicants are rejected. When the last group of applicants reached the last hurdle, they represent a highly selected sample of applicants, making very difficult the last hurdle validation.

d. Matching Profile

Matching profile (profile matching) assumes that the ideal level of predictor variables that must be owned by the applicant, instead of the minimum rate that must be met or passed. In matching profiles, groups of employees that good and bad are identified. The applicants' performance this group was measured on several predictor variables. In matching profiles, job applicants raised were applicants who most closely the ideal profile for a successful employee.

2.2 Fuzzy Analytical Hierarchy Process (F-AHP)

Analytical Hierarchy Process combines the human perspectives and logic with concerning in some problems, so then synthesize some of considerations become estimation intuitively, the consideration that has been made can be presented. (Saaty, 1996). AHP also helps to solve complex problems by structuring a hierarchy of criteria, the competent authorities, with interesting results and a variety of considerations in order to develop a weight or priority.

Decision makes needs a methodology or tool in order to help them in taking

decision with a proper way. Some situation that can be designed by AHP methodology are the problem with multi-criteria decision, subjectivity, emotions, human perspectives that affects the decision. Thus, AHP will comes with quantified decision and provide numeric scale in prioritizing the result.

There are some principles of Analytical Hierarchy Process (AHP) that have to be understood in resolving the problems with the AHP, which are: decomposition, comparative judgment, synthesis of priority and logical consistency (Sri Mulyono, 2007).

1. Decomposition

   Decomposition is needed to break down the problem into intact elements. The solution also broke down into elements until no possible solution in order to get more accurate results. For this reason, the analysis process is called hierarchy. There are two types of hierarchies, the complete and incomplete. Complete hierarchy means all elements in each level consist of all elements in the next level. By other means, the hierarchy is incomplete.

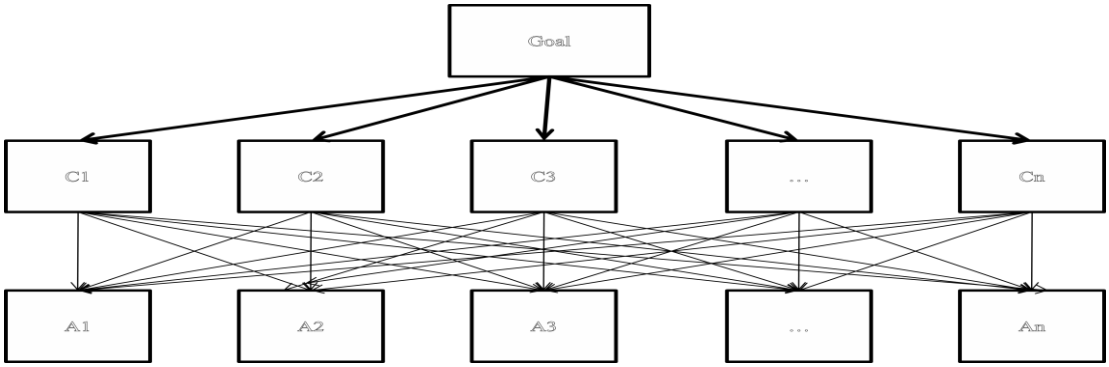

Figure 2.3 Analytical Hierarchy Process Structure

2. Comparative Judgement

   The fundamental assumption of making judgments regarding the relative importance between two elements at a determined level and the level above it. In the preparation of the scale of this interest, use the reference as shown in table 2.1 below:

Table 2.1 Priority Scale of AHP

Intensity of importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective
3	Moderate Importance	Experience and Judgement slightly favour one activity over another
5	Strong Importance	Experience and Judgement strongly favour one activity over another
7	Very Strong Importance	An activity is favoured very strongly over another, its dominance demonstrated in practice
9	Extreme Importance	The evidence favouring one activity over anothers is of the highest possibel order of affirmation
2, 4, 6, 8		Intermediate values

(Source: Saaty, 1996)

3. Synthesis of Priority

   From each pairwise comparison Eigen vector then determine the local priority. Because the pairwise comparison matrix is present at all levels, then to get a global priority should be a synthesis between local priorities. Synthesize different procedures according to the shape of the hierarchy. Elements are ordered based on the relative importance using the synthesis procedure is also known as priority setting.

4. Logical Consistency

   There are two different meanings of consistency. The first meaning is according to uniformity, similar objects can be assembled or grouped. The second meaning is related to the relation level of the objects on any specific criteria.

5. Analytical Hierarchy Process (AHP) calculations

   Elements on each line of a square matrix is the result of pairwise comparisons. Each matrix of pairwise comparison searched Eigen vector to obtain local priority. Scale pairwise comparisons are based on the fundamental values of Analytical Hierarchy Process with equal weighting of the i's important, up to 9 for each important.

Analytical Hierarchy Process (AHP) method will be combine with Fuzzy Set theory become Fuzzy Analytical Hierarchy Process (F-AHP) methodology. At the first, it is developed by Zadeh in 1965, and then the development in Fuzzy AHP application is taken by Laarhoven and Pedryez. The personal judgement vagueness is included in Fuzzy AHP method and it differentiate this method with AHP conventional. The personal judgement is developed with Fuzzy logic approach based.

There are some development and different way in using Fuzzy AHP method that creates some model of this method. Based on Saphiro and Koissi (2013), Comparison among models:

Table 2.2 Comparison of some FAHP models

Buckley model	Chang model
Derivate Fuzzy weight by using geometric mean	Using arithmetic mean for deriving fuzzy weight
If the reciprocal matrix is not perfect consistency, the geometric row procedure can give different weights compared to the eigen vector method. (Csutora and Buckley, 2001)	Normalization formula does not take into account constraints derived from the AHP method (Enea and Piazza (2004)
	It may result zero weights to some items, so this model could lead to a wrong decision

Source: Shapiro and Koissi (2013)

Thus, based on comparison, it is seen that Buckley model is more preferable than Chang model because of limitation in this model has limitation less than Chang model and it can be used in many cases. Buckley method has simple analysis simple model and has been successfully applied in many problems. Then, the Buckley model will be used in this research.

2.2.1 Steps of Fuzzy Analytical Hierarchy Process

Since basic AHP does not include vagueness for personal judgements, it has been improved by benefiting from fuzzy logic approach. In Fuzzy AHP, the pairwise comparisons of both criteria and alternatives are performed through the linguistic variables, which are represented by triangular fuzzy number. Although, there are some more techniques embedded in Fuzzy AHP, within scope of this study, Buckley's methods is implemented to determine the relative importance weights for both the criteria and the alternatives.

The steps of the procedure are as follows:

1. Construct the pairwise comparison matrices from the decision maker preferences on questionnaire result by using fuzzy number. Below is the example of pairwise comparison matrix.

	O	G	A	F	P
O	1	3	5	7	9
G	1/3	1	3	5	7
A	1/5	1/3	1	3	5
F	1/7	1/5	1/3	1	3
P	1/9	1/7	1/5	1/3	1

Figure 2.4 pairwise comparison matrix

2. If there is more than one decision maker, preferences matrix of each decision maker are averaged by using geometric means calculation as equation below

$$\tilde{r}_i = \left(\prod_{j=1}^{n} \tilde{d}_{ij} \right)^{1/n} , i = 1, 2, \dots, n \quad (2\text{-}1)$$

Table 2.3 Linguistic Terms and the Corresponding Triangular Fuzzy Number

Linguistic Variables	Fuzzy Number	Triangular Fuzzy Number	Triangular Reciprocal Number
Equally Important	1	(1,1,1)	(1,1,1)
Weakly Important	3	(1,3,5)	(1/5,1/3,1)
Strongly Important	5	(3,5,7)	(1/7,1/5,1/3)
Very Important	7	(5,7,9)	(1/9,1/7,1/5)
Absolutely Important	9	(7,9,9)	(1/9,1/9,1/7)
Intermittent values between two adjacent	2	(1,2,4)	(1/4,1/2,1)
	4	(2,4,6)	(1/6,1/4,1/2)
	6	(4,6,8)	(1/8,1/6,1/4)
	8	(6,8,9)	(1/9,1/8,1/6)

(Chang, 1996)

3. Calculate the summation for each criteria or sub-criteria or alternatives.
4. Calculate the eigenvector for each criteria or sub-criteria or alternatives. And calculate summation for eigenvector

$$\text{Eigenvector} = r_{ij} / \Sigma r_j \qquad i= 1, 2, 3, \ldots, n \tag{2-2}$$

5. Calculate eigenvalue

   Eigenvalue = Summation of criteria / Random Index of matrix measurement (2-3)

6. Calculate Consistency

   Consistency is calculated to make sure that the pairwise comparison is consistent. The consistency should be CR ≤ 0.1. To calculate the Consistency Ratio, the Consistency Index should be calculated first. The equation is:

$$CI = \frac{\lambda max - n}{n - 1} \tag{2-4}$$

   After that, Consistency Ratio equation can be seen as follow:

$$CR = \frac{CI}{RI} \leq 0.10 \tag{2-5}$$

   λmax is calculated by summing up the multiplication calculation of Eigen vector and pairwise comparison. Then divide it with the total of element. Table

2.3 shows the value of Random Index (RI) that used for calculate the Consistency ratio.

Table 2.4 Table of Random Index

Matrix Measurement (n)	1	2	3	4	5	6
Random Index (RI)	0	0	0.58	0.9	1.12	1.24
Matrix Measurement (n)	7	8	9	10	11	12
Random Index (RI)	1.32	1.41	1.45	1.49	1.51	1.48

Source: Saaty (1996)

7. After the consistency is accepted, convert the matrix into Triangular Fuzzy Number based on table 2.3.

$$\tilde{A}^k = \begin{bmatrix} \tilde{d}_{11}^k & \tilde{d}_{12}^k & \dots & \tilde{d}_{1n}^k \\ \tilde{d}_{21}^k & \dots & \dots & \tilde{d}_{2n}^k \\ \dots & \dots & \dots & \dots \\ \tilde{d}_{n1}^k & \tilde{d}_{n2}^k & \dots & \tilde{d}_{nn}^k \end{bmatrix} \quad (2\text{-}6)$$

8. If there is more than one decision maker, preferences of each decision maker $(\widetilde{d_{ij}^k})$ are averaged and $(\widetilde{d_{ij}})$ is calculated as equation below

$$\tilde{d}_{ij} = \frac{\sum_{k=1}^{K} \tilde{d}_{ij}^k}{K} \quad (2\text{-}7)$$

9. According to averaged preferences, pairwise contribution matrix is updated as shown equation below

$$\tilde{A} = \begin{bmatrix} \widetilde{d_{11}} & \cdots & \widetilde{d_{1n}} \\ \vdots & \ddots & \vdots \\ \widetilde{d_{n1}} & \cdots & \widetilde{d_{nn}} \end{bmatrix} \quad (2\text{-}8)$$

10. Calculate the geometric mean for each criteria. The formula of geometric mean can be seen as below,

$$\tilde{r}_i = \left(\prod_{j=1}^{n} \tilde{d}_{ij} \right)^{1/n} , i = 1, 2, \dots, n$$

(2-9)

11. Calculate the vector summation of each ri.
12. Process the TFN by calculating the summation vector power.
13. Then, each of ri will multiplied by the reverse vector to obtain the fuzzy weight of criterion I (wi). The formula can be seen as below,

$$\begin{aligned} \widetilde{w}_i &= \tilde{r}_i \otimes (\tilde{r}_1 \oplus \tilde{r}_2 \oplus \ldots \oplus \tilde{r}_n)^{-1} \\ &= lw_i, mw_i, uw_i \end{aligned}$$

(2-10)

14. De-fuzzified the weight of criteria by using Centre of area method. It can be calculated as follows,

$$M_i = \frac{lw_i + mw_i + uw_i}{3}$$

(2-11)

15. Then, the value of Mi will be Normalized by using formula bellow,

$$N_i = \frac{M_i}{\sum_{i=1}^{n} M_i}$$

(2-12)

Thus, these steps will obtain the value of Ni, the highest value of Ni should be selected by decision maker as the best choice.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Flowchart

The following diagram illustrates the research methodology of this research.

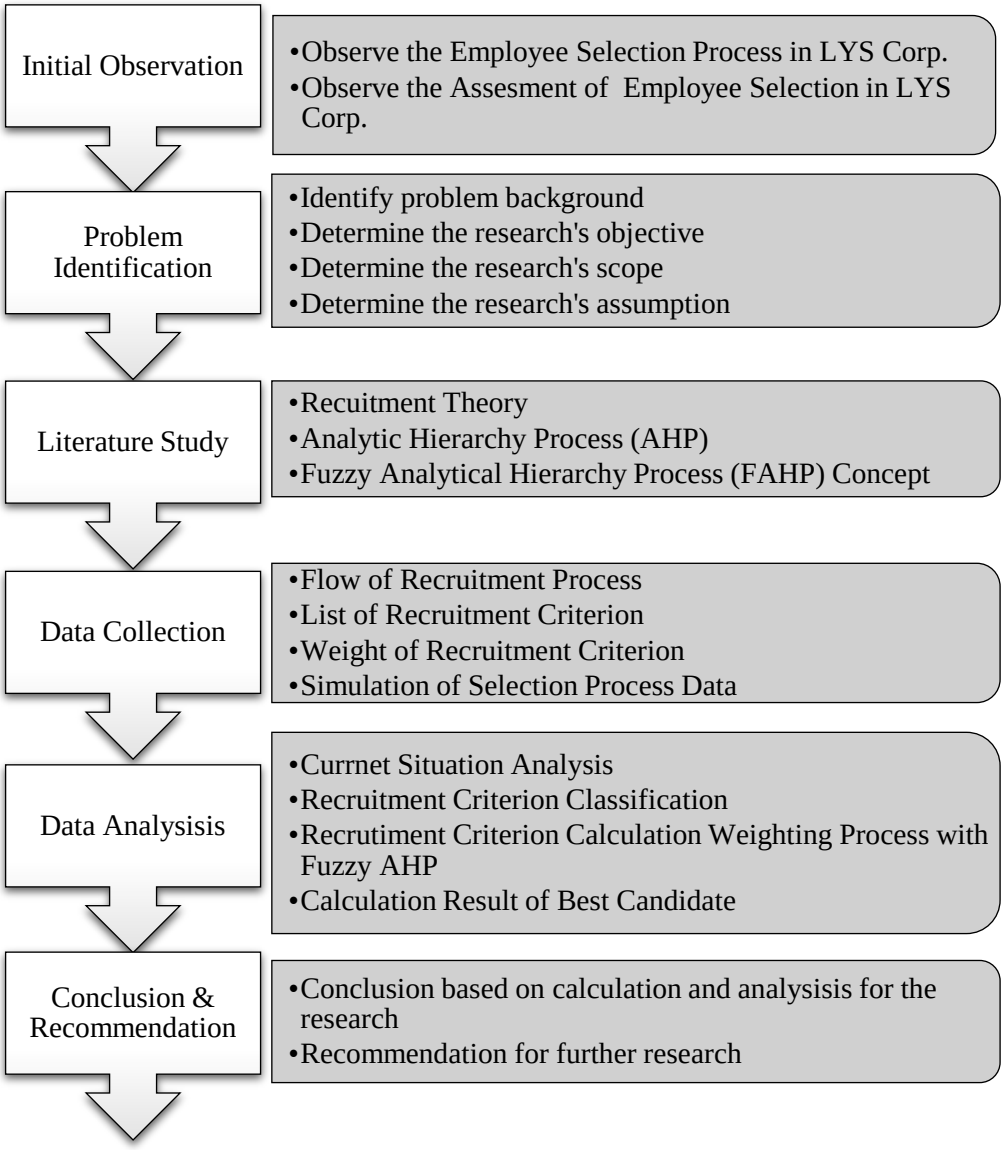

Figure 3.1 Research Flowchart

3.1.1 Initial Observation

The initial observation is conducted in Human Resource Department of LYS Corp. The observation is done by analyzing the recruitment process in this company. The problem observed is the decision in choosing the right candidates of employee with minimizing the subjectivity of assessment process. The recruitment process of this company is quite long, the assessment procedure is conducted with three steps of assessment, and the applicants also comes in a huge number. Thus data sorting is required in order to fulfill the needs of the research.

3.1.2 Problem Identification

Problem is identified when discussion on recruitment process issue has been done with Human Resource Department in the company, specifically recruitment division. This research will identify the problems by observing the recruitment process, the criterion of recruitment, and also the recent result of recruitment in LYS Corp. By discussing with related people in Human Resource, the problem mapping can be done. The problem mapping is conducted for a more systematical of problem background and problem statement. Thus, the research objectives, scopes, and assumptions of the project are determined.

3.1.3 Literature Study

Literature study is laid out as a theoretical base of problem solving to related issue faced by the company. Importance of study is also established to provide a strong basic for the research. As the basic of this project, Literature study is grounded from books, journals, and other resources which helps analyze and find solution of the problem identified. Literature study includes Recruitment, Decision Theories and also Fuzzy Analytical Hierarchy Process to improve decision of recruitment result.

3.1.4 Data Collection

The data are collected to support the problem analysis and to find solution through calculation. The data collected is also used for basic theory of the result. The data is collected through discussion, interview and spreading questionnaire to people that related with recruitment process and decision. The data collected includes the current flow of recruitment process, current criteria of recruitment, current recruitment assessment process, and also current rating system and decision rule.

3.1.5 Data Calculation and Analysis

The data collected will be analyzed and calculated. This chapter includes Current Recruitment Process Analysis, Recruitment Criterion Re-Determination, Weight of Recruitment Criterion Determination, Recruitment Result Calculation, and Recruitment Result Comparison.

- Current Recruitment Process Analysis

  Current Recruitment Process is analyzed based on all data collected. Through the analysis it is found that several aspects of current recruitment process are decided subjectively. The analysis of this current situation described using fishbone diagram to obtain the root causes of the problem.

- Recruitment Criterion Re-Determination

  With the problem identified, this research will re-determine the recruitment criterion, descriptions, and the weights. In re-determining process, the recruitment criterion proposed is the development of current recruitment criterion. All the determination of criterion and descriptions was collected through interview and discussion with the Human Resource Department.

- Weight of Recruitment Criterion Determination

  Weight of recruitment criterion by using Fuzzy AHP pairwise comparison method. The score in comparing each criterion are collected and quantified by related person in Human Resource Department through questionnaire.

- Recruitment Result Calculation

  The calculation is the next step after all the criterion and sub criterion weighted. The recruitment score of each candidates will be calculated with the weighted criterion. The result will determine if the candidates passed or failed the recruitment process. It involves the application of Fuzzy AHP method in resulting the candidates' final score. The candidates rank is also stated by this calculation.

- Improvement Summary

  The proposed recruitment calculation will improve the result of recruitment process. In this section, the proposed recruitment calculation differences and accommodation will be compared to the current calculation.

3.1.6 Conclusion and Recommendation

The result of analysis on the recruitment process of LYS Corp. will be interpreted and conveyed within this chapter. This section also will answer the problem statements of the research. Conclusion will be stated to summarize the result of the research. In addition, some recommendations are provided for the future research and better improvement of recruitment process in LYS Corp.

3.2 Research Framework

The framework of the research is the detailed steps of this research. It begins with studying and observing the recruitment process in LYS Corp, identifying the problem of recruitment, Determination of recruitment criterion and sub criterion, Weight of criterion and sub-criterion determination by using questionnaire, Weight of criterion and sub-criterion calculation by using Fuzzy AHP pairwise comparison, Recruitment score calculation, and Candidates Rating based on scores calculated.

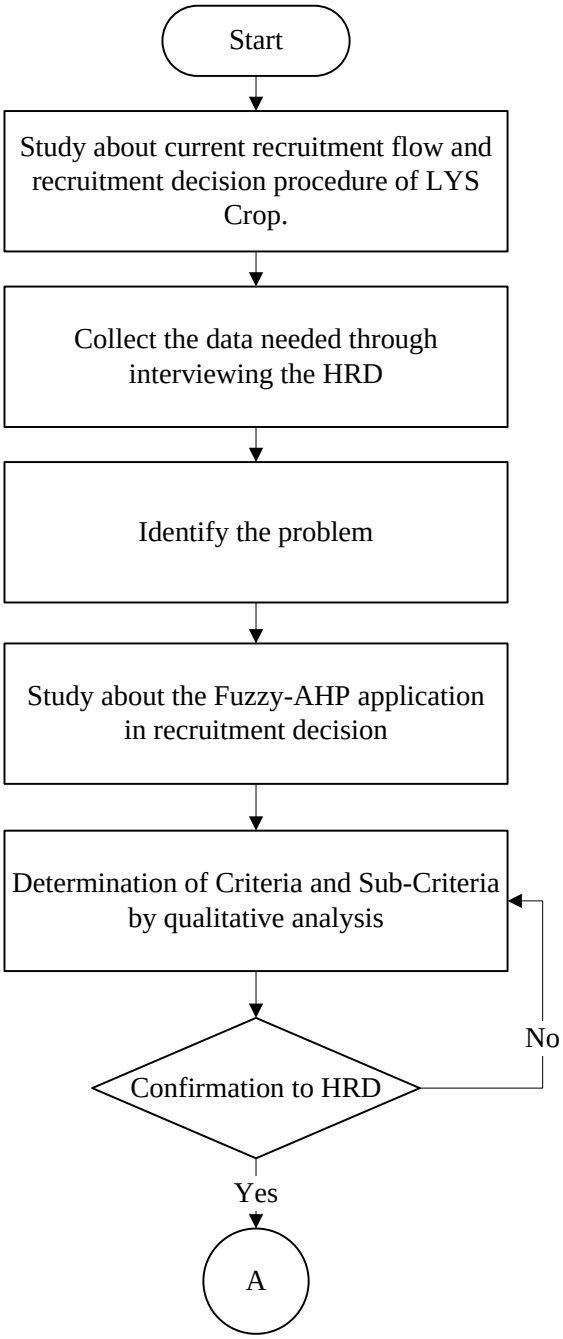

Figure 3.2 Research Framework

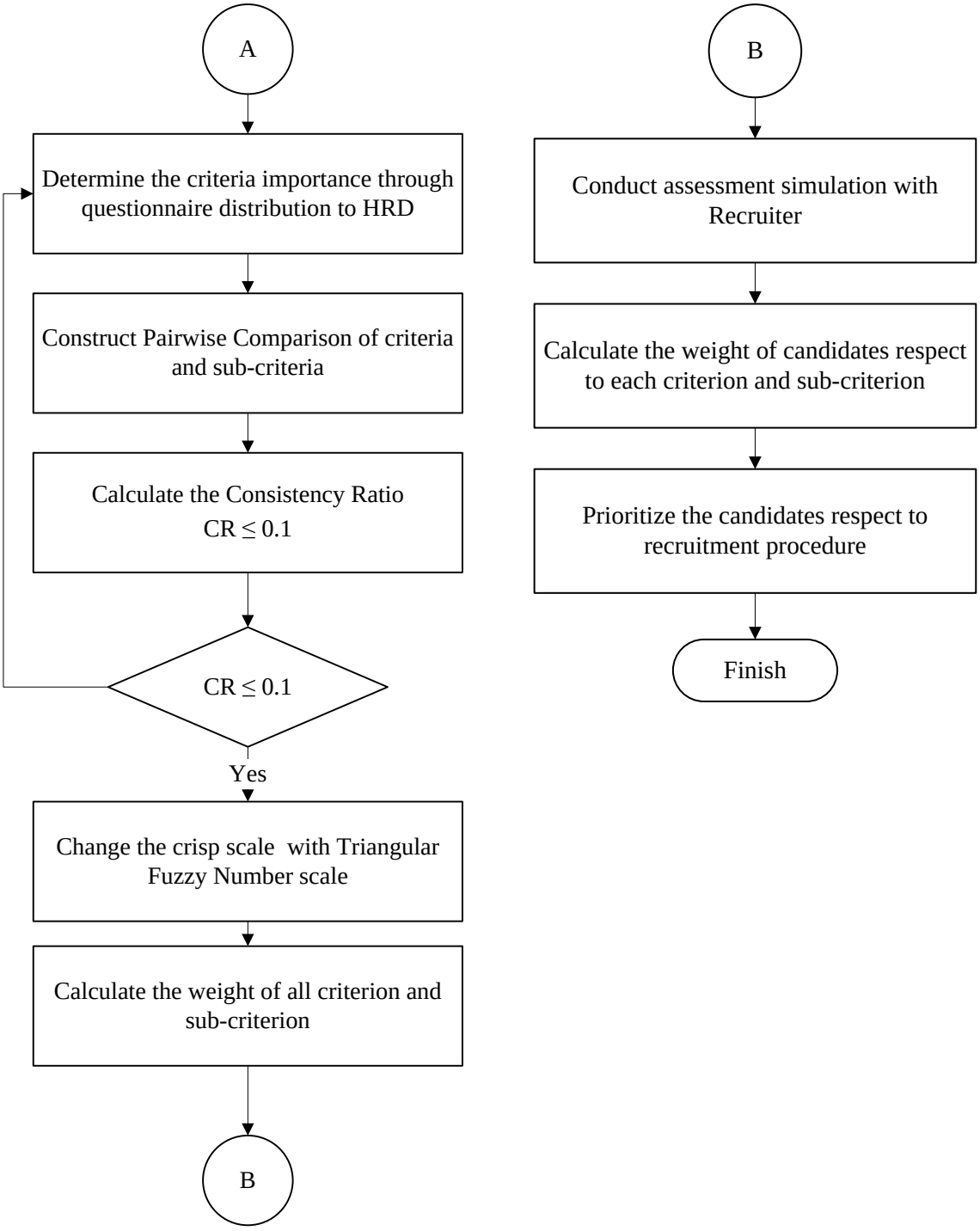

Figure 3.2 Research Framework (continued)

CHAPTER IV
DATA COLLECTION AND CALCULATION

4.1 Data Collection

In order to develop a recruitment system in LYS Corp., a research and an analysis have been implemented to the current recruitment process. The main points that will be analyzed in this research are the recruitment process and procedure, recruitment issued, assessment criterion and descriptions, and also criterion weight determination. All of the information was collected from a discussion process with the human resource department (HRD) in LYS Corp., Particularly the head of recruitment division and several recruitment staffs.

4.1.1 Current Flow of Recruitment Process

Every company has their own recruitment process and assessment system. Referring to the purpose of this research, in-depth studies and analysis on the recruitment process should be done. Figure 4.1 below shows the figure of the current flow of the recruitment process in LYS Corp.

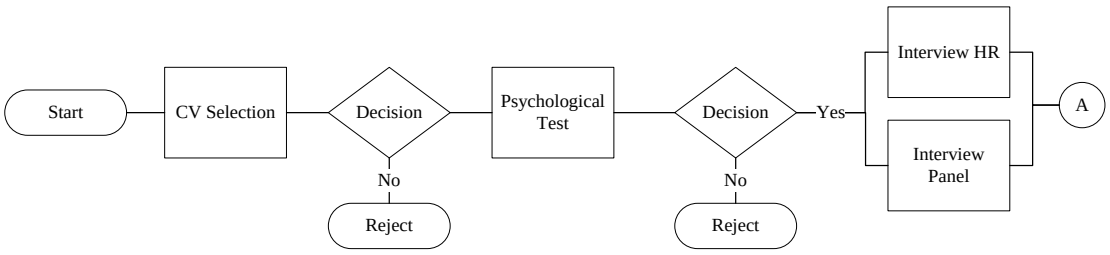

Figure 4.1 Current Flow of Recruitment Process

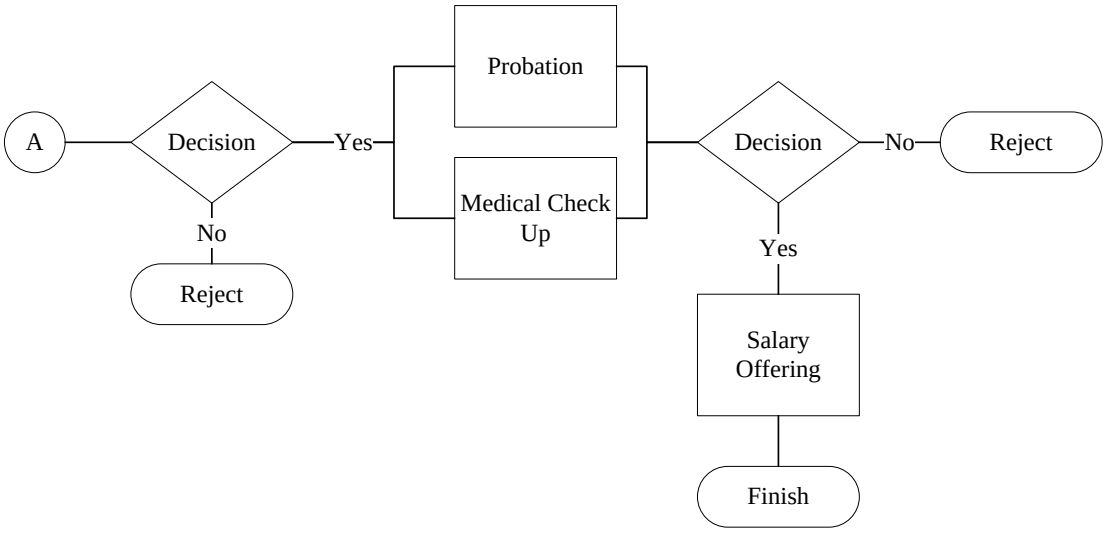

Figure 4.1 Current Flow of Recruitment Process (continued)

Based on the figure, the recruitment process of LYS Corp. is divided into 4 main processes which are CV Selection, Psychological test, Interview Session, and Probation, in which each process has a decision making, whether the prospective candidate will succeed through each step of the processes. Below are the explanations for the current on the go recuitment process:

1. CV Selection

   The recuiter will recieve a Personnel Requisition form from the requester (User), which consists of the application of additional human resource in a certain division. The search of prospective employees will be conducted if the form has been accepted by the Head of related department and HRD. The requester (User) also has to fulfill several information, such as the part in which additional human resource are needed, what job descriptions that will be assigned to the prospective employee, and the qualifications that are needed by the prospective employee.

   Based on the desired information of the qualification, the recruiter will seek for the candidates of prospective employee. The first step for the recruiter is, he/she will review and sort all of the CVs based on their major or expertise. Usually, the requester (User) will inform three kinds of major or expertise which are recommended, and also the desirable major or expertise

priority. And then, the recruiter will recommend and give the data of prospective employee candidates that are matched or fulfilled the qualifications to the requester (User). The requester (User) will review again the CV of the recommended candidates. After being reviewed and selected the candidates that are apparently matched, the requester (User) will inform the recruiter to contact the candidate(s) to proceed to the next process.

2. Psychological Test

   The next process is psychological test. This process can be presumed as an optional process. The requester (User) can choose whether this process will be proceeded or not. On the other hand, most of the requesters (Users) proceeding this test to the candidates of prospective employee. The test is believed to be useful for the requester (User) to know and learn the possibility of ones' character and personality which will be matched with the needs of recruiting, in which the match will help to increase both party's productivity. The result of the psychotest will be reviewed by the recruiter and will be recommended to the requester (User). The recommendation decision for the result of the psychotest is the decision of the recruiter, because the recruitment division owns the expertise in this field. The candidates who are recommended will proceed to the next step, which is interview process by HRD.

3. HR Interview

   In this step, the candidates will be interviewd by the HR. Recruitment division is the division which is in charge in this process. General assessment will be done in this step. Besides, the assessment of the qualification for every prospective candidate is based on the information on their CV. The assessment is also being conducted to find the best candidate and the most qualified candidate. The decision for this step will not define a final decision to proceed to next step. This step is only an aid for the requester (user) to assess the suitability with the qualifications, which are desired by the requester (user). After that, the recruiter will recommend the candidates of prospective employee based on the assessment and perspective of the recruiter.

4. Panel Interview

   After passing HR interview, the candidate will proceed to panel interview. In this interview, the interviewer will be the requester (user) and several people from related division (if it is necessary). The assessment in this step is aimed to know and to assess the candidate's intellectual understanding regarding a problem and any certain information, which are needed to be known by the requester (user). The requester (user) will question the prospective employee's job description, and, usually, the candidate will be given a study case and will be asked to assess based on standard qualification and indicator of the company. In this step, the assessment will result a final decision whether the candidate will proceed to the next process or not. There will be just 2 candidates who will be selected to proceed to the next process.

5. Probation

   The next process is probation. This process is practice test or field test. In this process, assessment for work practice for 3 months for every candidates of prospective employee will be done. Direct observation is conducted, in order to assess the way of working, work performance, and another aspects. The two candidates who have passed the interview session will go through probation, one after each other (not in the same period). The assessment that will be done in different period is aimed to look over the pure character and the way of work of their own, also not because of the existance of other candidate. All of the assessments will be discussed with the related head of department. This process will result a final decision whether the candidate will proceed or not. The final result is decided with the consideration of probation process and medical check up.

6. Medical Check Up

   Medical check up is done to be cognizant of health condition of the prospective employee. This decision is taken to know whether the health condition is still on the worker's tolerance limit. If the result of the test is over the worker's tolerance limit, then the candidate will fail from all of

recruitment processes. Medical check up will be done in a day of probation. The result of medical check up will be informed along with the result of assessment during probation. Only one candidate that will be hired as permanent employee.

7. Salary Deal

   Salary deal will be done to the selected candidate. The candidate will negotiate the fittest amount of salary, and not detriment of both parties. Every provision regarding salary deal is a confidential information.

4.1.2 Current Recruitment Criterion

Aside from having different recruitment process flow, each company also has different assessment criterion. The assessment criterion in a company is aimed to hire a employee who is suitable with the way of working in the company and may help the company developing to be better. Because of the recruitment type in LYS Corp. is successive hurdles, which means each process of recruitment has decision in every step. LYS Corp. is only using assessment criterion and indicator in interview panel stage. Other than, LYS Corp. is using assessment criterion in practical test or probation. The following Table 4.1 is the criterion which is used by current recruitment process in LYS Corp.

Table 4.1 Current Indicator for Interview Panel

No	Criterion	Indicator
1	Experience	How does previous experience relate to current position opening?
		Consider communication and other skill such as knowledge, information and technical competence based on previous training
2	Capability	Verbal ability, judgement, analytical, logical, decisive, resourceful, imaginative
3	Education/Skills	Degree(s), professional licenses, registration, certification, data processing, languages, and equipment
4	Goal and Ambition	Initiative, persistence, drive, goals are well defined (related to predicting success on the job)

Table 4.2 Current Criterion and indicator for Probation Stage

No	Criterion	Indicator
1	Personality	Good appearance and attitude in work. Respect differences and makes advantage of diversity
2	Quality of Work	Good quality of work produced by candidates with considering accuracy and thoroughness. Ability in doing the task with minimal error
3	Analysis and Judgment	Ability in making decisions quickly and correctly. Ability in analyzing problem with considering the consequences.
4	Communication	have good communication skill and professionally affect his work performance
5	Interpersonal Skill	Ability in building good relationship and adaptable with other workers. Able to control behavior and act professionally in daily working life.
6	Team Work	Able to cooperate and contribute in working. Work in teams to reach certain goals

4.1.3 Current Rating System

The criterion and indicator that have been set by the company will be the base of assessment. Every assessment will be done towards company's criterion. Assessment scales are shown in table 4.3 below.

Table 4.3 Current Scale of Interview Panel

Scale
Inadequate
Below Average
Average
Above Average
Outstanding

The scales will be stated on the assessment sheet of panel interview. The assessment is done by using the scales towards the criterion and indicator in panel interview. In the panel interview, every assessment will be done by the interviewer (usually by the requester or user).

Table 4.4 Current Rank and Scale of Probation

Rank	Scale
Very Bad	5
Bad	6
Average / Fair	7
Good	8
Very Good	9

Different with interview assessment scales, the table above shows the scales which will be used in the assessment during probation. The assessment during probation will be done in quantitative result. The assessment for each candidate will be done towards criterion. Final decision will be taken based on score of each candidate resulted.

There are decision rule on current recruitment process. The CV selection and Psychological test will be assessed by the recruiter, but the decision will be taken by the user. The interview session has 2 phase which are interview HR and Panel. Recruiter will in charge for interview Panel and user will in charge in Interview Panel. Even though the interview is conducted by two different person, but the decision maker is only the user. And for the probation will be assessed and decided only by the user. The current decision of recruitment process in LYS Corp is attached in appendix 13.

4.2 Problem Identification of Current Recruitment System

Based on the initial situation, an analysis will be done to the recruitment process in LYS Corp. It is done by direct observation on the recruitment proces, then through particular discussion with the recruiter and the head of recruitment division. On the other hand, it has also been done the interview and discussion with several parties who have been an requester (user) to get complete information.

Problem identification is conducted to spell out and summarize all of the problems which occur in recruitment system. There are several problems in each recruitment process which cause uncertain decision making in selecting prospective employees (applicants). Below are the problems that occur in each recruitment process of LYS Corp.

1. **Difficulties in comparing the candidates (applicants).**

   The recruiter has to compare and prioritize the applicants in order to giving recommendation to user. In this case, LYS Corporation still compare the candidates by using manual way and subjectively. Subjective in this part means LYS Corp. still do not use any proper calculation to help them in comparison. And this problem occurs when there is a huge number of applicant. This situation makes the recruiter get difficulties in comparing the candidates (for a position). Sometimes, the recruiter needs more than one day in selecting the CV of prospective candidates. Moreover, if this process should be handled by more than 1 recruiter because of the limitation of time. These situations make it harder to compare and get a good decision.

2. **Interview Session is Containing High Subjectivity**

   In current recruitment system, the final decision will be taken by user, even though the recruiter is also involved in interviewing the prospective candidates. The interview by recruiter is too general and the result is not really used by the user for any further consideration. The other thing, there is no appropriate calculation also happen in this stage. Actually there is indicator of interview which has been mentioned in table 4.1, but the indicator is still in general way and it does not use for give a nominal score of candidate. Interview panel is using linguistic scale to assess the candidate. With this situation, the problem happened are difficulties to decide the best candidate because of there is no nominal or number in interview assessment. The situation leads to create a subjective decision.

   The other problem is time consume. In current recruitment system, user is the one who take a decision in selecting the candidates to continue to probation stage. One user for one position. But, sometimes the user is in a state of busy with work and lead the interview process should be delayed.

3. **Difficult to prioritize and rank the candidates in Probation Stage**

   In order to choose the best candidate that would be hired as employee, the evaluation is conducted by the user towards each candidates on probation stage. There are some of criterion and indicator for probation stage on table 4.2. There is no weighting analysis of the assessment criterion for probation stage. The problem occurs when the candidates got the same total score from the evaluation. This situation leads the subjective decision in choosing the candidates, even there are only 2 candidates in this stage.

Based on those problem explanation, so the problem would be summarized into some main points of problem. The problems are **unstandardized decision making, unstandardized decision rule, unstandardized recruitment criterion weight, uncertainty in candidate's comparison, and uncertainty in decision making**.

4.3 Data Calculation

Based on the identified problems, there are some steps should be taken to improve the recruitment process assessment technique of LYS Corp. Through a discussion between recruitment division and some people from HR department, who in charge in designing the recruitment system of LYS Corp. It was approved by recruitment division and HR department to develop the LYS Corp. recruitment system. Implementation of Fuzzy Analytical Hierarchy Process methodology will be taken in purpose to solve those problems. Thus, the improvement of the methodology of recruitment system will start with the Re-Determination of Recruitment Criterion, Sub-Criterion, and Indicator of each sub-criterion.

4.3.1 Re-Determination of Recruitment Criterion and Sub-Criterion.

In improving the whole recruitment decision making, improvement of recruitment criterion, sub-criterion and indicator will be the first step. Through the discussion, the criteria, sub criteria and indicator are determined. By using Fuzzy-AHP, the recruitment criterion should be determined for each stage in detail. Then, all the criteria and sub-criteria will be arrange in hierarchy model as the decision model.

Table 4.5 Re-designed Recruitment Criterion, Sub Criterion.

Criterion	Sub Criterion	Code
General		C1
	Age	C1 – 1
	Health Condition	C1 – 2
	Gender	C1 – 3
Educational Background		C2
	Degree	C2 – 1
	GPA	C2 – 2
	Certification	C3 – 3
Work Experience		C3
	Knowledge	C3 – 1
	Projects Taken	C3 – 2
	Current Salary	C3 – 3
	Current Position	C3 – 4
Psychological Test		C4
	Emotional Quotient	C4 – 1
	Spiritual Quotient	C4 – 2
	Intellectual Quotient	C4 – 3
Personality		C5
	Attitude	C5 – 1
	Discipline	C5 – 2
	Appearance	C5 – 3
	Independency	C5 – 4
	Initiative	C5 – 5
	Persistence	C5 – 6
	Responsibility	C5 – 7
Technical Skill		C6
	Project Management	C6 – 1
	Planning Ability	C6 – 2
	Computer Competency	C6 – 3
	Language	C6 – 4
	Resourceful	C6 – 5
Soft Skill		C7
	Communication	C7 – 1
	Teamwork	C7 – 2
	Judgement	C7 – 3
	Leadership	C7 – 4
	Decisive	C7 – 5
	Analytical & Logical	C7 – 6

From table 4.5 above, it can be seen that there are seven main criterion, and each main criterion has its own sub-criterion. Each sub-criterion also has indicator that will helps to know what will be assessed in each sub criterion. First criterion which is General aspect, there are three sub criterions of it which are Age, Health Condition, and Gender. Second criterion is educational background aspect. The sub criterions of educational background are Degree, GPA, and Certification. The third criterion is Work Experience aspect, and it has Knowledge, Projects Taken, Current Position and Current Salary. The forth criterion is Psychological aspect. This criterion has three sub criterion, which are IQ, EQ and SQ. the fifth criterion is Personality aspect. It has seven sub-criterion which are Attitude, Discipline, Appearance, Independency, Initiative, Persistence, and Responsibility. The sixth criterion is Technical Skill aspects. It has Project management, Planning Ability, Computer Competency, Language, and Resourceful. And the last criterion is Soft Skill. It has six sub-criterion, which are Communication, Teamwork, Judgement, Leadership, Decisive, and Analytical & Logical. Then all the criterions and sub-criterion will be arranged into Hierarchy Model.

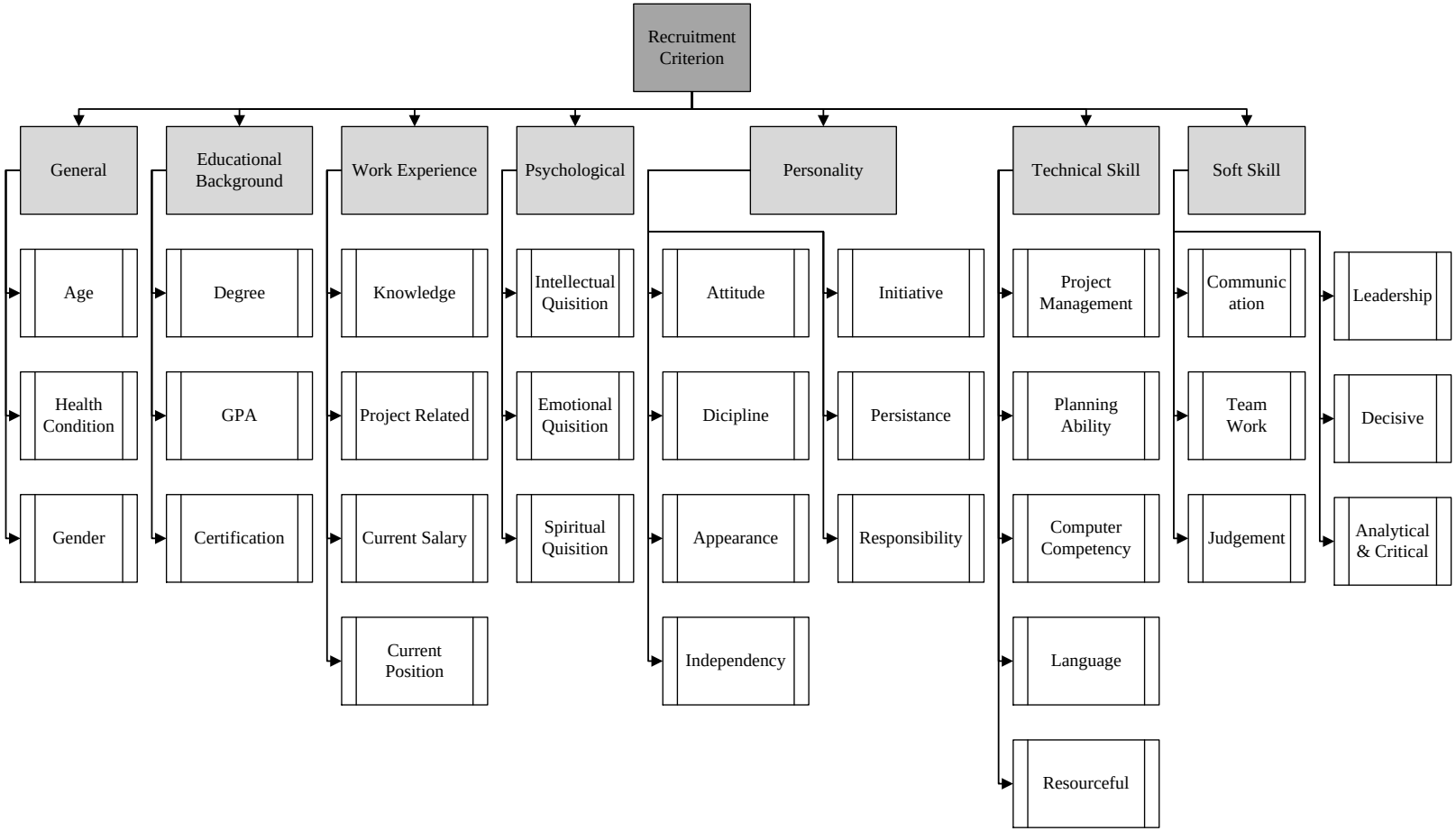

Figure 4.2 Hierarchy Design of Recruitment Criterion

4.3.2 Construct Pairwise Comparison Matrix of Criterion and Sub-Criterion

The criterion and sub-criterion weight should be calculated. So, in order to determine the weight for all criterion and sub-criterion, the questionnaire is made and given to fulfill the data. The questionnaire will be spread to five respondents. The respondents are the person in charge for recruitment system and also directly involve in recruitment process management.

Table 4.6 Respondents Data

	Position
Respondent 1	Director of Human Resource Department
Respondent 2	Manager of Human Capital Development
Respondent 3	Head of Recruitment Division
Respondent 4	Head of Organization Improvement and Development
Respondent 5	Representative of All Area Managers

Respondent 1 and Respondent 2 are involved in designing criterion and indicator based on human resource and capitol uniformity. General personality criterion and assessment indicator are arranged by those 2 respondents. Respondent 3 is involved in assess and analyze the criterion arranged by the company in order to development. Respondent 4 is more concerned in criterion of practical assessment aspect. Respondent 5 is the representative of all department managers as assessment criterion approval.

In order to find criterion and sub-criterion weight, five respondents will fill the questionnaire which has been arranged and using Saaty conversion scale on table 2.2. The result of questionnaire data is aimed to gain the comparison of importance weight between one criterion and another criterion, also between one subcriterion and another subcriterion.The complete data of the questionnaire can be seen in Appendix 3. The collected result of the questionnaire will be treated in the form of pair comparison matrix. In addition, the result of the questionnaire of each respondent will form a matrix.

Table 4.7 Preference Comparison of Main Criteria in Matrix

1	C1	C2	C3	C4	C5	C6	C7
C1	1	1/3	1/3	1/5	1/5	1/7	1/7
C2	3	1	1/2	1/5	1/5	1/5	1/5
C3	3	2	1	1/4	1/4	1/6	1/6
C4	5	5	4	1	1/3	1/5	1/5
C5	5	5	4	3	1	1/3	1/3
C6	7	5	6	5	3	1	1/3
C7	7	5	6	5	3	3	1

2	C1	C2	C3	C4	C5	C6	C7
C1	1	1/5	1/5	1	1/3	1/3	1
C2	5	1	1	3	1/3	3	3
C3	5	1	1	5	1/3	1	3
C4	1	1/3	1/5	1	1/3	1/3	1
C5	3	3	3	3	1	3	3
C6	3	1/3	1	3	1/3	1	1
C7	1	1/3	1/3	1	1/3	1	1

3	C1	C2	C3	C4	C5	C6	C7
C1	1	3	1	1	1/3	1	1
C2	1/3	1	1/3	1/2	1/3	1	1
C3	1	3	1	3	1	1	1
C4	1	2	1/3	1	1/3	1	1
C5	3	3	1	3	1	3	3
C6	1	1	1	1	1/3	1	1
C7	1	1	1	1	1/3	1	1

4	C1	C2	C3	C4	C5	C6	C7
C1	1	1/7	1/5	1	1/4	1/5	1/8
C2	7	1	1	1	1	1	1
C3	5	1	1	1	1	1/5	1/7
C4	1	1	1	1	1/4	1	1/5
C5	4	1	1	4	1	1	1/7
C6	5	1	5	1	1	1	1/7
C7	8	1	7	5	7	7	1

Table 4.7 Preference Comparison of Main Criteria in Matrix (continued)

5	C1	C2	C3	C4	C5	C6	C7
C1	1	1/5	1/3	1	1/3	1/5	1/5
C2	5	1	1/3	1/2	3	2	1
C3	3	3	1	1	2	1	1
C4	1	2	1	1	1	1/2	1
C5	3	1/3	1/2	1	1	1/2	1
C6	5	1/2	1	2	2	1	2
C7	5	1	1	1	1	1/2	1

Table 4.7 above shows five pairwise matrix comparing between each criterion, in which represent questionnaire result data processing from five different respondents. For example, to read respondent 1's matrix is shown below.

C1:C2 = 1/3

C1:C3 = 1/3

C1:C4 = 1/5

C1:C5 = 1/3

C1:C6 = 1/5

C1:C7 = 1/5

And so does subcriterion, the subcriterion questionnaire result also needs to be processed into pairwise comparison matrix. The complete pairwise comparison of all sub-criterion matrix is enclosed in Appendix 4

4.3.3 Consistency Determination

Consistency calculation of the questionnaire result matrix needs to be done. Consistency stipulation is if the calculation of consistency ratio is more than 10% (or 0.1) then the matrix is not consistent, in other words, the matrix cannot be used for next calculation. So, questionnaire data reengagement needs to be done; it is done until the ratio consistency is below 10% (< 0.1). Below is the consistency determination of criterion

Table 4.8 Consistency Calculation of Criterion Matrix

	C1	C2	C3	C4	C5	C6	C7	Eigen Vector
C1	1	0.356	0.3385	0.7248	0.2841	0.2857	0.324	0.0547
C2	2.8094	1	0.561	0.6843	0.5818	1.0371	0.9029	0.1268
C3	2.9542	1.7826	1	1.3026	0.6988	0.5065	0.5899	0.1395
C4	1.3797	1.4614	0.7677	1	0.392	0.5065	0.5253	0.1026
C5	3.5195	1.7188	1.431	2.5508	1	1.0845	0.8441	0.1981
C6	3.4997	0.9642	1.9744	1.9744	0.9221	1	0.6248	0.1762
C7	3.0863	1.1076	1.6952	1.9037	1.1847	1.6004	1	0.2021
Sum	18.249	8.3905	7.7677	10.14	5.0636	6.0208	4.811	1
	Eigen Value							7.2228
	CI							0.0371
	CR							0.0281

Table 4.8 is the geometric mean final result matrix of five respondents. And then the calculation for Eigen Vector. Eigen vector calculation can be seen as calculation 3. After calculate the eigen vector, then calculate the Eigen Value by using calculation 4. It follows with Consistency Index calculation that ca be seen on calculation 5, and last, calculate Consistency Ratio as can be seen on calculation 6.

Calculation 1: C1 (Row) – C2 (Column)

Geometric mean of C1:C2

$$= \sqrt[1/5]{\frac{1}{3} \text{ x } \frac{1}{5} \text{ x } 3 \text{ x } \frac{1}{7} \text{ x } \frac{1}{5}}$$

= **0.356**

Calculation 2: Sum (Row) – C1 (Column)

Sum of C1 (Column)

= 1 + 2.8094 + 2.9542 + 1.3797 + 3.5195 + 3.4997 + 3.0863

= **18.249**

Calculation 3: C1 (Row) – Eigen Vector (Column)

Eigen Vector of C1

$$= \left(\frac{1}{18.249} + \frac{0.356}{8.3905} + \frac{0.3385}{7.7677} + \frac{0.7248}{10.14} + \frac{0.2841}{5.0636} + \frac{0.2857}{6.0208} + \frac{0.324}{4.811}\right) \text{x} \frac{1}{5}$$

= **0.0547**

Calculation 4: Eigen Value (Row) – Eigen Vector (Column)

Eigen Value = (18.249 x 0.0547) + (8.3905 x 0.1268) + (7.7677 x 0.1395) + (10.14 x 0.1026) + (5.0636 x 0.1981) + (6.0208 x 0.1762) + (4.811 x 0.2021)

= **7.2228**

Calculation 5: Consistency Index (Row) – Eigen Vector (Column)

CI $= \frac{7.2228 - 7}{7-1}$ = **0.0371**

Calculation 6: Consistency Ratio (Row) – Eigen Vector (Column)

CR $= \frac{0.0371}{1.32}$ = **0.0281**

Based on the calculation above, the result of consistency ratio from criteria matrix can be obtained, it is **0.0281**. The value of the consistency ratio is **less than 10%** (or 0.1), then, the pairwise comparison matrix of the criteria is considered as consistent. Also calculate the consistency in every pairwise comparison matrix of subcriterion. After proving the consistency by calculation, then pairwise comparison matrix of each respondent that has been converted into Triangular Fuzzy Number (TFN) should be processed. The table 4.9 below is the summary of consistency calculation using pairwise comparison matrix for all sub-criterion. All of the calculations for the consistency ratio of subcriterion are enclosed in Appendix 5.

Table 4.9 Summary of Sub-Criterion Consistency Calculation

Sub Criterion of	Code	Consistency Ratio (CR)
General (C1)	C1-1	0.036484782
	C1-2	
	C1-3	
Educational Background (C2)	C2-1	0.033821911
	C2-2	
	C2-3	
Work Experience (C3)	C3-1	0.052258305
	C3-2	
	C3-3	
	C3-4	
Psychological Test (C4)	C4-1	0.031929398
	C4-2	
	C4-3	
Personality (C5)	C5-1	0.013595308
	C5-2	
	C5-3	
	C5-4	
	C5-5	
	C5-6	
	C5-7	
Technical Skill (C6)	C6-1	0.057833572
	C6-2	
	C6-3	
	C6-4	
	C6-5	
Soft Skill (C7)	C7-1	0.02692799
	C7-2	
	C7-3	
	C7-4	
	C7-5	
	C7-6	

Based on the table 4.9 above, it is known that all pairwise comparison matrices for subcriterion has a consistency ratio result below 10% (or 0.1). The lowest consistency ratio of subcriterion is the criterion of Personality, with the number of 0.0136, and the highest consistency ratio of subcriterion is the criterion of Technical Skill, with the number of 0.0578.

4.3.4 Determination of Criterion and Sub-Criterion Weight

To determine the weight for each criterion and subcriterion using Fuzzy AHP method, then all of pairwise comparison matrices have to be converted from Saaty scale to Triangular Fuzzy Number. The conversion table can be seen in the literature study. Table 4.10 is an example for pairwise comparison matrix of a converted criterion using Triangular Fuzzy Number.

Table 4.10 Matrices of Pairwise Comparison of Criterion in Triangular Fuzzy Number Conversion

1	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/5	1/3	1	1/5	1/3	1	1/7	1/5	1/3	1/7	1/5	1/3	1/9	1/7	1/5	1/9	1/7	1/5
C2	1	3	5	1	1	1	1/4	1/2	1	1/7	1/5	1/3	1/7	1/5	1/3	1/7	1/5	1/3	1/7	1/5	1/3
C3	1	3	5	1	2	4	1	1	1	1/6	1/4	1/2	1/6	1/4	1/2	1/8	1/6	1/4	1/8	1/6	1/4
C4	3	5	7	3	5	7	2	4	6	1	1	1	1/5	1/3	1	1/7	1/5	1/3	1/7	1/5	1/3
C5	3	5	7	3	5	7	2	4	6	1	3	5	1	1	1	1/5	1/3	1	1/5	1/3	1
C6	5	7	9	3	5	7	4	6	8	3	5	7	1	3	5	1	1	1	1/5	1/3	1
C7	5	7	9	3	5	7	4	6	8	3	5	7	1	3	5	1	3	5	1	1	1
2	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/7	1/5	1/3	1/7	1/5	1/3	1	1	1	1/5	1/3	1	1/5	1/3	1	1	1	1
C2	3	5	7	1	1	1	1	1	1	1	3	5	1/5	1/3	1	1	3	5	1	3	5
C3	3	5	7	1	1	1	1	1	1	3	5	7	1/5	1/3	1	1	1	1	1	3	5
C4	1	1	1	1/5	1/3	1	1/7	1/5	1/3	1	1	1	1/5	1/3	1	1/5	1/3	1	1	1	1
C5	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1	1	3	5	1	3	5
C6	1	3	5	1/5	1/3	1	1	1	1	1	3	5	1/5	1/3	1	1	1	1	1	1	1
C7	1	1	1	1/5	1/3	1	1/5	1/3	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1

Table 4.10 Matrices of Pairwise Comparison of Criterion in Triangular Fuzzy Number Conversion (Continued)

3	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1	3	5	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1
C2	1/5	1/3	1	1	1	1	1/5	1/3	1	1/4	1/2	1	1/5	1/3	1	1	1	1	1	1	1
C3	1	1	1	1	3	5	1	1	1	1	3	5	1	1	1	1	1	1	1	1	1
C4	1	1	1	1	2	4	1/5	1/3	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1
C5	1	3	5	1	3	5	1	1	1	1	3	5	1	1	1	1	3	5	1	3	5
C6	1	1	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1
C7	1	1	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1

4	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/9	1/7	1/5	1/7	1/5	1/3	1	1	1	1/6	1/4	1/2	1/7	1/5	1/3	1/9	1/8	1/6
C2	5	7	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C3	3	5	7	1	1	1	1	1	1	1	1	1	1	1	1	1/7	1/5	1/3	1/9	1/7	1/5
C4	1	1	1	1	1	1	1	1	1	1	1	1	1/6	1/4	1/2	1	1	1	1/7	1/5	1/3
C5	2	4	6	1	1	1	1	1	1	2	4	6	1	1	1	1	1	1	1/9	1/7	1/5
C6	3	5	7	1	1	1	3	5	7	1	1	1	1	1	1	1	1	1	1/9	1/7	1/5
C7	6	8	9	1	1	1	5	7	9	3	5	7	5	7	9	5	7	9	1	1	1

Table 4.10 Matrices of Pairwise Comparison of Criterion in Triangular Fuzzy Number Conversion (Continued)

5	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/7	1/5	1/3	1/5	1/3	1	1	1	1	1/5	1/3	1	1/7	1/5	1/3	1/7	1/5	1/3
C2	3	5	7	1	1	1	1/5	1/3	1	1/4	1/2	1	1	3	5	1	2	4	1	1	1
C3	1	3	5	1	3	5	1	1	1	1	1	1	1	2	4	1	1	1	1	1	1
C4	1	1	1	1	2	4	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1
C5	1	3	5	1/5	1/3	1	¼	1/2	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1
C6	3	5	7	1/4	1/2	1	1	1	1	1	2	4	1	2	4	1	1	1	1	2	4
C7	3	5	7	1	1	1	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1

Table 4.11 Aggregate Value of Matrix Pairwise Comparison of Criterion

	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	0.32	0.78	1.37	0.34	0.41	0.73	0.83	0.84	0.87	0.18	0.29	0.77	0.32	0.38	0.57	0.47	0.49	0.54
C2	2.44	4.07	5.8	1	1	1	0.53	0.63	1	0.53	1.04	1.67	0.51	0.97	1.67	0.83	1.44	2.27	0.83	1.24	1.67
C3	1.8	3.4	5	1	2	3.2	1	1	1	1.23	2.05	2.9	0.67	0.92	1.5	0.65	0.67	0.72	0.65	1.06	1.49
C4	1.4	1.8	2.2	1.24	2.07	3.4	0.87	1.31	1.87	1	1	1	0.35	0.45	0.9	0.52	0.61	0.87	0.66	0.68	0.73
C5	1.6	3.6	5.6	1.24	2.47	3.8	1.05	1.9	2.8	1.2	2.8	4.4	1	1	1	0.69	1.57	2.6	0.66	1.5	2.44
C6	2.6	4.2	5.8	1.09	1.57	2.2	2	2.8	3.6	1.4	2.4	3.6	0.68	1.33	2.4	1	1	1	0.66	0.9	1.44
C7	3.2	4.4	5.4	1.24	1.67	2.2	2.24	3.07	4	1.8	2.6	3.4	1.48	2.33	3.4	1.65	2.5	3.4	1	1	1

Table 4.11 is the aggregate value for pairwise comparison matrix of a criterion. After it is converted, then the matrix of five respondents will be aggregated into 1 matrix. The aggregate calculation can be done using the calculation below.

Calculation 7: C1 (Row) – C2 (Column)

Aggregate Value of C1:C2 =

$$\left[\left(\frac{\frac{1}{5}+\frac{1}{7}+1+\frac{1}{9}+\frac{1}{7}}{5}\right);\left(\frac{\frac{1}{3}+\frac{1}{5}+3+\frac{1}{7}+\frac{1}{5}}{5}\right),\left(\frac{1+\frac{1}{3}+5+\frac{1}{5}+\frac{1}{3}}{5}\right)\right]$$

$$= \mathbf{(0.32; 0.78; 1.37)}$$

After the matrix is converted into Triangular Fuzzy Number and also calculated aggregate value, then the next step will be the geometric mean calculation for each criterion to determine Fuzzy Comparison Values. The calculation will be done using the equation (2-3).

Table 4.12 Geometric Means of Fuzzy Comparison Values

Criterion	Ri		
C1	0.4237	0.5459	0.7986
C2	0.8149	1.2457	1.7985
C3	0.9366	1.3717	1.8506
C4	0.7837	0.9854	1.3456
C5	1.0192	1.9589	2.8849
C6	1.1995	1.7622	2.4766
C7	1.6881	2.3006	2.9331
Total	6.8658	10.1705	14.0879
Reverse	0.1457	0.0983	0.0710
Increasing Order	**0.0710**	**0.0983**	**0.1457**

Below is the manual calculation for calculating Fuzzy Comparison Value manually:

Calculation 8: C1 (Row) – ri (Column)

C1:lri = $(1 \times 0.32 \times 0.34 \times 0.83 \times 0.18 \times 0.32 \times 0.47)^{1/7}$

= **0.4237**

C1:mri = $(1 \times 0.78 \times 0.41 \times 0.84 \times 0.29 \times 0.38 \times 0.49)^{1/7}$

= **0.5459**

C1:uri = $(1 \times 1.37 \times 0.73 \times 0.87 \times 0.77 \times 0.57 \times 0.54)^{1/7}$

= **0.7986**

Calculation 9: Total (Row) – lri (Column)

Total = 0.4237 + 0.8149 + 0.9366 + 0.7837 + 1.0192 + 1.1995 + 1.6881

= **6.8658**

Calculation 10: Reverse (Row) – lri (Column)

Reverse = $\frac{1}{6.8658}$ **= 0.1457**

Calculation 11: Increasing Order (Row) – ri (Column)

Increasing order of *lri* **= Reverse of *uri***

= 0.0710

Increasing order of *mri* **= Reverse of *mri***

= 0.0983

Increasing order of *uri* **= Reverse of *lri***

= 0.1457

Once the data is completed based on table 4.12 above, then the next step is calculating Relative Fuzzy Weight for each criterion. The calculation can be done using equation (2-4).

Table 4.13 Relative Fuzzy Weight for Each Criterion

Criterion	Wi		
C1	0.0301	0.0537	0.1163
C2	0.0578	0.1225	0.2620
C3	0.0665	0.1349	0.2695
C4	0.0556	0.0969	0.1960
C5	0.0723	0.1926	0.4202
C6	0.0851	0.1733	0.3607
C7	0.1198	0.2262	0.4272

The manual calculation to find Relative Fuzzy Weight can be seen below:

Calculation 12: C1 (Row) – wi (Column)

Relative Fuzzy Weight of Criterion 1

C1:lwi = (C1:r1) x (Increasing Order of r1)

= 0.4237 x 0.0710

= **0.0301**

C1:mwi = (C1:r2) x (Increasing Order of r2)

= 0.5459 x 0.0983

= **0.0537**

C1:uwi = (C1:r3) x (Increasing Order of r3)

= 0.7986 x 0.1457

= **0.1163**

After calculating Relative Fuzzy Weight, it will be continued by defuzzification, by calculating Mi, using this equation (2-5). Mi is the average of Relative Fuzzy Weight. The arithmetic mean will be normalized by calculating Ni using this equation (2-6). Ni is the weighting result of each criterion. To calculate the weight of subcriterion can be seen completely in Appendix 6. Below is the table of Average and Normalized Value of Relative Fuzzy Weight.

Table 4.14 Average and Normalized Value of Relative Fuzzy Weight

Criterion	Wi			Mi	Ni	%
C1	0.0301	0.0537	0.1163	0.0667	0.05653	5.65%
C2	0.0578	0.1225	0.2620	0.1474	0.124964	12.50%
C3	0.0665	0.1349	0.2695	0.1570	0.133047	13.30%
C4	0.0556	0.0969	0.1960	0.1162	0.098468	9.85%
C5	0.0723	0.1926	0.4202	0.2284	0.193582	19.36%
C6	0.0851	0.1733	0.3607	0.2064	0.174935	17.49%
C7	0.1198	0.2262	0.4272	0.2577	0.218475	21.85%
Total				1.1798	1	100%

The manual calculation to find average and normalized value can be seen below:

Calculation 13: C1 (Row) – Mi (Column)

Average Value of Criterion 1

= (0.0301 + 0.0537 + 0.1163) / 3

= 0.0667

Before calculating normalization of each criterion, summation of total average value of all criteria is needed. The calculation can be seen below:

Calculation 14: Total (Row) – Mi (Column)

Sum of Average Value

= 0.0667 + 0.1474 + 0.1570 + 0.1162 + 0.2284 + 0.2064 + 0.2577

= **1.1798**

So, the calculation for normalized value of each criterion can be seen below:

Calculation 15: C1 (Row) – Ni (Column)

Normalized Value of Criterion 1

= (Average Value of Criterion 1) / (Sum of Average Value)

= 0.0667 / 1.1798

= **0.05653**

Based on all calculation results which are summarized in table 4.14, it is known that the greatest weighting goes to Criterion 7 (Soft Skill Criterion), with the weight of 0.218475 or 21.85%. And the criterion that has biggest weight is Criterion 1 (General Criterion) with the number of 0.05653 or 5.65%. Subcriterion is also being weight calculated, it can be seen completely in Appendix 7.

Table 4.15 Summary of Wi, Mi, and Ni for each Sub-Criterion towards Criterion

Sub-Criterion	Wi			Mi	Ni	%
C1						
C1-1	0.256695	0.393315	0.610773	0.420261	0.397018	39.702%
C1-2	0.197616	0.283428	0.428638	0.303228	0.286457	28.646%
C1-3	0.205319	0.323256	0.47659	0.335055	0.316525	31.652%
Total				1.058544	1	100%
C2						
C2-1	0.230832	0.342191	0.500381	0.357801	0.343682	34.368%
C2-2	0.240533	0.320007	0.435203	0.331914	0.318817	31.882%
C2-3	0.23383	0.337802	0.482463	0.351365	0.337501	33.750%
Total				1.041081	1	100%
C3						
C3-1	0.144674	0.27394	0.509714	0.309443	0.274613	27.461%
C3-2	0.149976	0.266853	0.4704	0.295743	0.262455	26.246%
C3-3	0.111599	0.187138	0.347396	0.215378	0.191136	19.114%
C3-4	0.138483	0.272068	0.508254	0.306268	0.271796	27.180%
Total				1.126832	1	100%

Table 4.15 Summary of Wi, Mi, and Ni for each Sub-Criterion towards Criterion (continued)

C4						
C4-1	0.219786	0.384293	0.684716	0.429599	0.384923	38.492%
C4-2	0.209437	0.397131	0.682253	0.429607	0.384931	38.493%
C4-3	0.129651	0.218575	0.422345	0.256857	0.230146	23.015%
Total				1.116062	1	100%
C5						
C5-1	0.05049	0.09367	0.192246	0.112135	0.094882	9.488%
C5-2	0.047672	0.085708	0.183976	0.105785	0.089509	8.951%
C5-3	0.047182	0.081975	0.173563	0.100907	0.085382	8.538%
C5-4	0.054317	0.095746	0.192449	0.114171	0.096605	9.660%
C5-5	0.063564	0.126759	0.272561	0.154295	0.130555	13.056%
C5-6	0.124829	0.29145	0.590221	0.3355	0.283881	28.388%
C5-7	0.097362	0.224692	0.455067	0.25904	0.219185	21.919%
Total				1.181833	1	100%
C6						
C6-1	0.097161	0.231011	0.53362	0.287264	0.228384	22.838%
C6-2	0.088018	0.199933	0.450812	0.246254	0.19578	19.578%
C6-3	0.076337	0.161057	0.373533	0.203642	0.161902	16.190%
C6-4	0.075362	0.175102	0.424036	0.224833	0.178749	17.875%
C6-5	0.089116	0.232899	0.565444	0.29582	0.235186	23.519%
Total				1.257813	1	100%
C7						
C7-1	0.087255	0.173986	0.332211	0.197817	0.169363	16.936%
C7-2	0.078996	0.185187	0.402996	0.222393	0.190403	19.040%
C7-3	0.070778	0.138887	0.274153	0.161273	0.138075	13.807%
C7-4	0.066397	0.135958	0.298609	0.166988	0.142968	14.297%
C7-5	0.082302	0.156161	0.306509	0.181657	0.155527	15.553%
C7-6	0.112934	0.209821	0.390891	0.237882	0.203664	20.366%
Total				1.16801	1	100%

Table 4.15 shows Normalized Value for each subcriterion. Different with the normalized value of each criterion, which can directly indicated as the weight of the criterion itself. To determine the weight for each subcriterion, the calculation as below is needed:

Calculation 16:

Weight of Age Sub-Criterion (C1-1)

= Normalized Value of C1-1 x Normalized Value of C1

= 0.397018 x 0.05653

= **0.0224**

Table 4.16 Summary of Sub-Criterion Weights

Criterion	Code	Weight	Sub-Criterion	Code	Weight
General	C1	5.653%	Age	C1-1	2.244%
			Health Condition	C1-2	1.619%
			Gender	C1-3	1.789%
Educational Background	C2	12.496%	Degree	C2-1	4.295%
			GPA	C2-2	3.984%
			Certification	C2-3	4.218%
Work Experience	C3	13.305%	Knowledge	C3-1	3.654%
			Projects Related	C3-2	3.492%
			Current Salary	C3-3	2.543%
			Current Position	C3-4	3.616%
Psychological Test	C4	9.847%	Emotional Quitition	C4-1	3.790%
			Spiritual Quitition	C4-2	3.790%
			Intellectual Quitition	C4-3	2.266%
Personality	C5	19.358%	Attitude	C5-1	1.837%
			Dicipline	C5-2	1.733%
			Appearance	C5-3	1.653%
			Independency	C5-4	1.870%
			Initiative	C5-5	2.527%
			Persistence	C5-6	5.495%
			Responsibility	C5-7	4.243%
Technical Skill	C6	17.493%	Project Management	C6-1	3.995%
			Planning Ability	C6-2	3.425%
			Computer Competency	C6-3	2.832%
			Language	C6-4	3.127%
			Resoruceful	C6-5	4.114%
Soft Skill	C7	21.848%	Communication	C7-1	3.700%
			Teamwork	C7-2	4.160%
			Judgement	C7-3	3.017%
			Leadership	C7-4	3.123%
			Decisive	C7-5	3.398%
			Analytical & Logical	C7-6	4.450%
Total		100%	Total		100%

4.3.5 Construct the Assessment Criterion of each Recruitment Stage.

Recruitment assessment Criterions are classified based recruitment system LYS Corp. criteria of assessment are classified and arranged at each stage of the recruitment. Thus all stages of recruitment has assessment criteria respectively. In the table 4.17 below are the assessment criteria at this stage of CV Selection. And the complete classification of criteria used in recruitment process can be seen in Appendix 12.

Table 4.17 Assessment Criterion in CV Selection

CV SELECTION			
CRITERION	SUB-CRITERION	CODE	WEIGHT
Educational Background	Degree	C2-1	4.29%
	GPA	C2-2	3.98%
	Professional Licenses	C2-3	4.22%
Work Experience	Current Position	C3-4	3.62%
	Projects Taken	C3-2	3.49%
General	Age	C1-1	2.24%
	Gender	C1-1	1.79%

From the table 4.17 above shows that there are three main criteria of assessment on the CV selection, ie from the Educational Background, Work Experience, and General aspect. Each of the main criteria there are sub-criteria assessment. For the educational aspect, there are judgments based Degree, GPA, and professional Licenses, and from the aspect of work experience will be Current Position and Projects Taken. And for general aspects, will be seen on the candidate and the type Gender Age Applicants.

4.3.6 Description of each Sub-Criterion Determination and Decision Rule

Description on each of the assessment criteria should be described completely, in order to reduce confusion and errors in assessing candidates. Thus, the preparation of assessment description is done by means of a direct interview with the head of recruitment and staff recruiters. The following table 4.18 is the description of the assessment criteria at this stage of CV Selection. And for complete description of all criterion can be found in Appendix 14.

Table 4.18 Educational Background Description of CV Selection Criterion.

CRITERION	SUB-CRITERION	CODE	DESCRIPTION
Educational Background	Degree	C2-1	Assessment based on the priority of degrees which requested by User
	GPA	C2-2	Assessment based on Candidate's GPA towards company requirement of minimum GPA
	Professional Licenses	C2-3	Candidate's professional licenses which support to the position applied

Selection system used was the same as the current system of recruitment selection, but at this time will be given additional data which is the minimum score in all assessment calculation. The minimum score of all the assessment criteria is 7. Here are the Decision Rules adjusted with the current recruitment system:

CV Selection

For the CV Selection stage, candidates can be passed to the next stage if the rank of total score of candidates are higher than rank of minimum score and for candidates with a total score that ranks below the minimum score will be stated as failed.

Psychological Test

Assessment is done is done by psychological tests to candidates who pass the CV Selection stage. Assessment is completely done by recruiters. Recruiters will assess the suitability of candidates based on psychological test results to standards of employees in general and also assess specifically desired to request the requester. Assessment is done based on the results of IQ, EQ and SQ. then calculate the total value will be processed and passed when ranking the candidates were ranked above the minimum value

Interview

At this stage, the candidate will go through 2 times of interview session, first by HR (recruiters) and the second by the requester (User). Recruiters and the requester will do the assessment separately in accordance with the assessment criteria. The results of the interview will be processed into a decision. Because only two employees would be chosen to proceed to the Practice Test (probation) in one batch, the calculations carried out to find candidates with the two highest rank and also has a higher rank than the minimum score rank.

Probation

Assessment of probation stage would be taken by one person whether the requester (user) or other person in related department. The assessment process on working performance of candidate will be led by criterion made and descriptions provided. The final decision will be determined by rank of total score of each candidates. If the rank of candidate is higher than minimum value, so candidate will be declared as passed. But if the rank is below rank of minimum score, so it would be declared as

failed. In this stage will also conduct the medical checkup. The medical result which out of tolerance will be automatically failed the candidate.

4.3.7 Conduct Recruitment Assessment Simulation

Simulation was conducted to try to use the criteria in the assessment system. Simulations carried out on 10 different candidates. The conduct simulations on 10 candidates which classified into 2 position vacant, which for position A and position B. Simulations conducted to obtain data assessment using the criteria that had been developed. At table 4.19 can be seen on the stage of assessment simulation results CV Selection. For other stages of assessment simulation results can be seen in Appendix 8, 9, 10, and 11.

Table 4.19 Assessment Result of CV Selection

CRITERION	Score of Candidate in CV Selection									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4
C2-1	7	6	6	6	9	8	8	7	7	6
C2-2	6	7	6	6	8	8	9	9	9	8
C2-3	6	8	7	6	9	8	8	7	9	9
C3-4	7	7	7	6	7	8	7	5	7	7
C3-2	8	6	8	8	8	9	8	9	8	8
C1-1	6	7	8	9	8	7	7	8	8	8
C1-3	8	7	7	8	7	8	7	7	7	7

Table 4.19 above, shows that there are 2 classifications of candidate. A1 until A6 are the applicant for position A, and B1 until B4 are the applicant for position B. so it concludes that there are 6 candidates for position A and 4 candidates for position B.

4.3.8 Candidate Weight Determination

The assessment result of CV selection which is shown by table 4.19 will be calculated in purpose of finding weight of candidates. To find the weight of candidates, the comparison between one and another candidate's toward one criterion will be done. The comparison will be construct in Pairwise Comparison Matrix

1. CV Selection

In this stage, there are six candidates applying for positions A and 4 candidates applying for positions B remains. Assessment scores at CV stage Selection can be seen in the table 4.19 above. With the data in the table will be performed calculations to get the weight of each candidate.

Table 4.20 Score of Candidate toward Criterion E1

E1	Score
A1	7
A2	6
A3	6
A4	6
A5	9
A6	8
B1	8
B2	7
B3	7
B4	6
MIN	7

Table 4.20 shows the score of candidates toward the Degree criterion (C2-1). The score will be processed. The candidates will be compared one and another based on their score toward E1 criterion. The pair comparison matrix of table 4.20 will be shown as table 4.21 below.

Table 4.21 Pairwise Comparison Matrix of Candidate Score towards Criterion C2-1

C2-1	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal
A1	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000
A2	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857
A3	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857
A4	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857
A5	1.286	1.500	1.500	1.500	1.000	1.125	1.125	1.286	1.286	1.500	1.286
A6	1.143	1.333	1.333	1.333	0.889	1.000	1.000	1.143	1.143	1.333	1.143
B1	1.143	1.333	1.333	1.333	0.889	1.000	1.000	1.143	1.143	1.333	1.143
B2	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000
B3	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000
B4	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857
MIN	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000

The manual calculation below can be followed to obtain the Pairwise comparison matrix as table 4.21.

Calculation 17: A1 (Row) – A2 (Column)

Comparison A1:A2 for C2-1

= (Score of A1) / (Score of A2)

= 7 / 6 = **1.167**

After construct the Pairwise Comparison matrix, the Geometric mean calculation for each candidate should be done. Then, sum all of geometric mean of all candidates. So, the weight of candidates towards C2-1 criterion will be known by dividing the geometric mean of each candidate with the sum of geometric mean. Thus, the weight of candidate can be obtained as the table 4.22.

Table 4.22 Geometric Mean and Weight of each Candidate towards Criterion C2-1

C2-1	GM	WEIGHT
A1	1.009	0.091
A2	0.865	0.078
A3	0.865	0.078
A4	0.865	0.078
A5	1.297	0.117
A6	1.153	0.104
B1	1.153	0.104
B2	1.009	0.091
B3	1.009	0.091
B4	0.865	0.078
MIN	1.009	0.091
Total	11.099	1.000

To calculate the weight of candidates can follow this manual calculation.

Calculation 17: A1 (Row) – GM (Column)

Geometric Mean of each Candidate towards Criterion C2-1

= $(1.00 \times 1.17 \times 1.17 \times 1.17 \times 0.78 \times 0.88 \times 0.88 \times 1.00 \times 1.00 \times 1.17 \times 1.00)^{1/11}$

= **1.00897**

Calculation 18: Total (Row) – GM (Column)

Sum of GM for C2-1

= 1.009 + 0.865 + 0.865 + 0.865 + 1.297 + 1.153 + 1.153 + 1.009 + 1.009 + 0.865 + 1.009 = **11.099**

Calculation 19: A1 (Row) – Weight (Column)

Weight of A1 towards Criterion C2-1

= (GM of A1) / (Sum of GM for C2-1)

$= \frac{1.00897}{11.099}$

= **0.090909**

Perform these manual calculation steps for calculating ratings of candidates in CV Selection criteria other. Calculation of the load on the CV selection can be seen more in Appendix 8. Summary candidate load at each stage of the assessment criteria Selection CV can be seen in table 4.23.

Table 4.23 Weight of Candidate towards Criterion in CV Selection

	WEIGHT OF CANDIDATES IN CV SELECTION						
CANDIDATE	C2-1	C2-2	C2-3	C3-4	C3-2	C1-1	C1-3
A1	0.090909	0.072374	0.071429	0.093333	0.091954	0.072289	0.1
A2	0.077922	0.084436	0.095238	0.093333	0.068966	0.084337	0.0875
A3	0.077922	0.072374	0.083333	0.093333	0.091954	0.096386	0.0875
A4	0.077922	0.072374	0.071429	0.08	0.091954	0.108434	0.1
A5	0.116883	0.096499	0.107143	0.093333	0.091954	0.096386	0.0875
A6	0.103896	0.096499	0.095238	0.106667	0.103448	0.084337	0.1
B1	0.103896	0.108561	0.095238	0.093333	0.091954	0.084337	0.0875
B2	0.090909	0.108561	0.083333	0.066667	0.103448	0.096386	0.0875
B3	0.090909	0.108561	0.107143	0.093333	0.091954	0.096386	0.0875
B4	0.077922	0.096499	0.107143	0.093333	0.091954	0.096386	0.0875
MIN	0.090909	0.083261	0.083333	0.093333	0.08046	0.084337	0.0875

For the interview session, there are 2 different persons that would in charge in interview HR and interview Panel. Actually there are some of the assessment criterion are used whether in interview HR or interview Panel. Those criterion are Attitude (C5-1), Appearance (C5-3), Initiative (C5-5), Communication (C7-1), Judgement (C7-3), and Language (C6-4). In another word, there will be 2 different

assessment scores in one criterion. Because of this condition, so the calculation geometric mean should be applied. As the example, below is the assessment scores of candidates B1, B2, B3, and B4 towards Criterion C5-1.

Table 4.24 Pairwise Comparison Matrix of Candidate Score towards Criterion C5-1

Interview HR					
C5-1HR	B1	B2	B3	B4	Minimal
B1	1	1	1.125	1.125	1.285714
B2	1	1	1.125	1.125	1.285714
B3	0.888889	0.888889	1	1	1.142857
B4	0.888889	0.888889	1	1	1.142857
Minimal	0.777778	0.777778	0.875	0.875	1
Interview Panel					
C5-1PNL	B1	B2	B3	B4	Minimal
B1	1	1	1.142857	1	1.142857
B2	1	1	1.142857	1	1.142857
B3	0.875	0.875	1	0.875	1
B4	1	1	1.142857	1	1.142857
Minimal	0.875	0.875	1	0.875	1

Table 4.25 Matrix of Candidate Score towards Criterion C5-1 (Geometric Mean)

C5-1	B1	B2	B3	B4	MIN
B1	1.00	1.00	1.13	1.06	1.21
B2	1.00	1.00	1.13	1.06	1.21
B3	0.88	0.88	1.00	0.94	1.07
B4	0.94	0.94	1.07	1.00	1.14
MIN	0.82	0.82	0.94	0.88	1.00

Table of 4.25 shows the pairwise comparison matrix of position B candidates that already calculated by Geometric Mean. The manual calculation of geometric means can follow the calculation below:

Calculation 20:

B1:B2 $= (1 \times 1)^{1/2}$
$= \mathbf{1}$

B1:B3 $= (1.125 \times 1.142857)^{1/2}$
$= \mathbf{1.1339}$

B1:B4 $= (1.125 \times 1)1/2$
$= \mathbf{1.0607}$

B1:MIN $= (1.2857 \times 1.1429)1/2$
$= \mathbf{1.2122}$

Table 4.26 Geometric Mean and Weight of each Candidate towards Criterion C5-1

P1	GM	WEIGHT
B1	1.08	0.22
B2	1.08	0.22
B3	0.95	0.19
B4	1.02	0.20
Minimal	0.89	0.18
Total	5.013797	1

After the matrix is restructured, then the Geometric mean of each candidate towards criterion P1 should be calculated. The table 4.26 above shows the Geometric mean and weight of the candidates towards criterion C5-1. The manual calculation of GM and Weight can follow the calculation below.

Calculation 21: B1 (Row) – GM (Column)

Geometric Mean of each Candidate towards Criterion C5-1

= $(1.00 \text{ x } 1.00 \text{ x } 1.13 \text{ x } 1.06 \text{ x } 1.21)^{1/5}$

= **1.0783**

Calculation 22: Total (Row) – GM (Column)

Sum of GM for C5-1

= 1.08 + 1.08 + 0.95 + 1.02 + 0.89

= **5.013797**

Calculation 23: A1 (Row) – Weight (Column)

Weight of B1 towards Criterion C5-1

= (GM of B1) / (Sum of GM for C5-1)

$= \frac{1.0783}{5.013797}$

= **0.2151**

4.3.9 Final Score of Candidates Calculation

After the weight of all Candidates towards each criterion have been calculated, then the weight of candidates should be multiplied to respective weight of criterion in purpose of obtain the Final Score of each candidate. The candidate would be ranked based on Final Score. The table 4.27 below shows the Final Score for each candidate in CV selection stage.

Table 4.27 Final Score of Candidate in CV Selection

	FINAL SCORE OF CANDIDATES								
CANDIDATE	C2-1	C2-2	C2-3	C3-4	C3-2	C1-1	C1-3	Total	Rank
A1	0.00390	0.00288	0.00301	0.00338	0.00321	0.00162	0.00179	0.01980	10
A2	0.00335	0.00336	0.00402	0.00338	0.00241	0.00189	0.00157	0.01997	9
A3	0.00335	0.00288	0.00351	0.00338	0.00321	0.00216	0.00157	0.02006	8
A4	0.00335	0.00288	0.00301	0.00289	0.00321	0.00243	0.00179	0.01957	11
A5	0.00502	0.00384	0.00452	0.00338	0.00321	0.00216	0.00157	0.02370	1
A6	0.00446	0.00384	0.00402	0.00386	0.00361	0.00189	0.00179	0.02348	2
B1	0.00446	0.00433	0.00402	0.00338	0.00321	0.00189	0.00157	0.02285	4
B2	0.00390	0.00433	0.00351	0.00241	0.00361	0.00216	0.00157	0.02150	6
B3	0.00390	0.00433	0.00452	0.00338	0.00321	0.00216	0.00157	0.02306	3
B4	0.00335	0.00384	0.00452	0.00338	0.00321	0.00216	0.00157	0.02202	5
MIN	0.00390	0.00332	0.00351	0.00338	0.00281	0.00189	0.00157	0.02038	7

This final score that shown in table 4.27 is obtained by calculating data from table 4.23 (weight of each candidate in CV selection) and multiply it with the respective weight of criterion in CV Selection. The final score of all candidate and the minimum score would be ranked in order to conclude if the candidates pass the stage or not. The candidates will be declared pass the stage if the candidates rank higher than the rank of minimum score.

The calculation below is the manual calculation of finding the Final Score of candidates.

Calculation 24: A1 (Row) – C2-1 (Column)

Final Score of Candidates in CV Selection

= (Weight of A1 towards Sub-Criterion C2-1) x (Weight of Sub-Criterion C2-1)

= 0.090909 x 4.29%

= **0.00390**

Calculation 25: A1 (Row) – Total (Column)

Total Score of Candidates in CV Selection

= 0.00390 + 0.00288 + 0.00301 + 0.00338 + 0.00321 + 0.00162 + 0.00187

= **0.01988**

4.3.10 Decision Making Process

Decision making of recruitment process will be improved with application of Fuzzy AHP methodology. The decision is still using the current rule of LYS Corp recruitment system, which is using Successive Hurdles recruitment model. LYS Corp has 4 main stages of recruitment as mentioned on point 4.1.1. So below is the simulation of decision making for each stage of recruitment by using F-AHP method.

1. **CV Selection**

As simulation of F-AHP application on recruitment process, there are 10 applicants which divided into 2 groups. Group 1 has 6 applicants for the position A and Group 2 has four applicants for the position B. Classification of candidates and Final score of candidates at CV Selection stage will be seen in Table 4.28 below.

Table 4.28 Total Score and Rank of Candidate in CV Selection

FINAL SCORE OF CANDIDATES		
CANDIDATE	Total	Priority
A1	0.01980	10
A2	0.01997	9
A3	0.02006	8
A4	0.01957	11
A5	0.02370	1
A6	0.02348	2
B1	0.02285	4
B2	0.02150	6
B3	0.02306	3
B4	0.02202	5
MIN	0.02038	7

Based on the decision rule then the candidate A1, A2, A3, A4 declared as failed due to candidates which have rank below the rank of minimum score. And for candidates A5, A6, B1, B2, B3, B4 expressed Pass on CV Selection stage. Thus, it can be seen that there are two candidates left for position A and 4 candidates who are applicants position B.

2. Psychological Test

The candidate who pass on CV Selection stage will proceed to the Psychological Test stage. This stage has similar decision with CV Selection stage to determine the candidate who passed or not. Table 4.29 shows the Final score and rank of candidates on the stage of Psychological Test.

Table 4.29 Total Score and Rank of Candidate in Psychological Test

FINAL SCORE OF CANDIDATES		
CANDIDATE	Total	Rank
A5	0.014394	3
A6	0.015109	1
B1	0.013305	6
B2	0.014058	5
B3	0.014129	4
B4	0.014844	2
Minimal	0.012628	7

In the following table it can be seen that both candidates for position A declared as passed Psychological Test stage. And four candidates for position B also declared as passed on Psychological Test stage. All candidates passed because all the candidates have rank higher than the rank of Minimum score. Therefore all candidates will proceed to the next stage, namely Interview stage.

3. Interview Session

In the interview session there are two stages of the interview, the interview HR and the interview panel. The main decision to be taken at this stage is to find the two best candidates in each position. 2 candidates with the highest rank will continue at the Probation stage. Decision of the failure of candidates at this stage is not only because the candidates could not reach the best 2 ranking, but also see the candidates ranked compared to the rank of minimum score. The following table lists the Final score and ranking of candidates on stage Interview Session.

Table 4.30 Total Score and Rank of Candidate in Interview Session

(A Position)

FINAL SCORE OF CANDIDATES		
CANDIDATE	TOTAL	Rank
A5	0.1408	1
A6	0.135379	2
Minimal	0.12658	3

Table 4.31 Total Score and Rank of Candidate in Interview Session

(B Position)

FINAL SCORE OF CANDIDATES		
CANDIDATE	TOTAL	Rank
B1	0.0842	2
B2	0.075304	5
B3	0.081954	3
B4	0.085989	1
Minimal	0.075312	4

From table 4.30 above, it can be seen that the 2 candidates for position A is still resulted as passed in this interview session. The 2 candidates rank higher than the rank of minimum score. And because only 2 of candidates for position in this stage, so 2 of candidates will proceed to probation stage. Then the Final Score of 4 candidates for position B is shown on table 4.31. The chosen candidate that will be proceed to probation stage is candidate B4 and B1. Candidate B2 is resulted as Failed because of the rank of candidates is below the rank of minimum score, and for candidate B3 will be kept. Actually the rank of candidate B3 is higher than rank of minimum score, but candidate B3 just got the 3rd place. B3 candidate can be proceed to probation stage if B4 and or B1 has failed in probation stage.

4. Probation

This is the last stage of recruitment process in LYS Corp. And the final decision to choose the candidate that would be hired is based on these 2 conditions:

a. One of two candidates in probation stage is failed.
b. Choose the highest Final Score between these 2 candidate

If these 2 candidates are failed in this stage, so recruiter will recommend the other candidate that ranked 3rd and 4th and also above the rank of minimum score in Interview session.

Table 4.32 Total Score and Rank of Candidate in Probation (Position A)

FINAL SCORE OF CANDIDATES		
CANDIDATE	Total	Rank
A5	0.184588	1
A6	0.179927	2
Minimal	0.16255	3

Table 4.33 Total Score and Rank of Candidate in Probation (Position B)

FINAL SCORE OF CANDIDATES		
CANDIDATE	Total	Rank
B1	0.179006	2
B4	0.186402	1
Minimal	0.161657	3

Based on the table above, the decision will be taken in the selection of candidates to become employees. To position A, is seen that both candidates declared passed on this stage due to have a higher rating than the minimum value rank. Thus, the selected candidate is A5 candidate that has the 1st rank for position A. And candidate for position B, the two candidates resulted passed due to have a higher rank than the minimum value rankings. Thus the chosen candidate B4 as the candidate who was selected as a filler position B.

4.4 Comparison of Final Decision between Current and Proposed System

The proposed recruitment system has different result with the current recruitment system. It can be seen by comparing the decision made in current system on table 4.34 with the decision made in proposed system on table 4.35.

Table 4.34 Current Recruitment System Final Decision

Recruitment Stage	Candidate									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4
CV Selection	Failed	Failed	Failed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
Psychological Test				Passed	Passed	Passed	Passed	Passed	Passed	Passed
Interview Session				Failed	Failed	Passed	Passed	Failed	Passed	Passed
Probation						Passed	Failed		Passed	Passed
Decision	Failed	Failed	Failed	Failed	Failed	***Chosen***	Failed	Failed	***Chosen***	Not Chosen

As seen in table 4.34, candidate A1, A2, A3 has been failed in CV Selection stage and candidate A4, A5, A6 are passed the CV selection stage. All candidate for position B which are B1, B2, B3, and B4 are passed the CV selection stage. For psychological test stage, all the candidates which candidate A4, A5, A6, B1, B2, B3, and B4 are declared as passed. In interview stage, candidate A4, A5, and B2 are failed. Candidate A6, B1, B3, and B4 are declared as passed. Because of

candidate A6 is the only one candidate remains for position A and has passed the probation stage, so the candidate A6 is chosen to fill the position A. For position B, there are 3 candidates remain. Candidate B1 is declared as failed the probation stage and both of candidate B3 and B4 are declared as passed. And in the final decision, candidate B3 is Chosen to fill the position B.

Table 4.35 Propose Recruitment System Final Decision

Recruitment Stage	Candidate									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4
CV Selection	Failed	Failed	Failed	Failed	Passed	Passed	Passed	Passed	Passed	Passed
Psychological Test					Passed	Passed	Passed	Passed	Passed	Passed
Interview Session					Passed	Passed	Passed	Not Chosen	Failed	Passed
Probation					Passed	Passed	Passed			Passed
Decision	Failed	Failed	Failed	Failed	***Chosen***	Not Chosen	Not Chosen	Failed	Failed	***Chosen***

Table 4.35 shows the result of proposed system. It can be seen that by the proposed recruitment system, candidate A1, A2, A3, and A4 are declared as failed in CV selection stage. It means that there are only 2 candidates remain for position A, which are A5 and A6. All the candidates for position B are passed the CV selection. The next is psychological test stage, all the candidates are passed and continue to the next stage. In the interview session, candidate A5 and A6 are passed the stage. Because the decision rule states there will only best 2 candidates for each position that can continue the probation stage and there are only candidate A5 and A6 remain for position A, so both of candidate A5 and A6 will continue to probation stage. For position B, actually all of three candidates are passed the interview session, but based on calculation, candidate B1 and B4 are the best 2 in this stage so both of candidates are chosen to continue to probation stage. And final decision is also taken based on calculation, which resulting the B4 is the chosen candidate to fill the position B and candidate A5 is chosen to fill the position A.

So for the comparison, it is obvious that the decision between current and proposed system have different output. The current system is resulting candidate A6 for position A and B3 for position B. and the proposed system is resulting candidate A5 for position A and B4 for position B.

4.5 Summary of Recruitment Problem Solving

In order to evaluate the benefit of this research, comparison of overall recruitment system between the current and proposed system will be stated in table 4.34 below.

Table 4.36 Summary of Recruitment Problem Solving

No.	Problems	Current	Proposed
1	Unstandardized assessment criterion in some recruitment process	Uncertainty decision, because it is not supported by the proper criterion.	standardized assessment criterion through re-determination the recruitment criterion by HRD
2	Unstandardized recruitment criterion weight	Different perceptions towards weight applied	Standardized weight through pairwise comparison analysis
3	Unstandardized decision rules	Decision in stating which candidate whose pass or fail the recruitment stage.	standardized pass or fail decision through Fuzzy AHP method
4	Uncertainty in candidates' comparison	Uncertainty in ranking the candidates	standardized rank of candidates through Fuzzy AHP method

By table 4.36, it can be seen that the problems of current recruitment system are solved in this research. The main problem of this research is uncertainty in recruitment decision making. The problem of **unstandardized assessment criterion** is solved by Fuzzy AHP. In applying Fuzzy AHP, the complete recruitment and assessment criterion should be listed. Thus, in re-determining the criterion, interview and discussion with HRD and Head of Recruitment Division are conducted. And the next problem is **unstandardized criterion weight**. It is solved while the Fuzzy AHP method needs the weight of each criterion in support the decision. The weight is determined by spreading questionnaire to related respondent and calculate it with Fuzzy-AHP method. The other problems which are **unstandardized decision rules and compare the candidates** have been solved with Fuzzy-AHP Method. This method give outputs of calculation in number, thus the rank of candidate can be stated. The decision with Fail or Pass option is also given by using this analysis. This method also allows recruitment system to do assessment with more than one assessor, so the recruitment system will reduce the time consume.

CHAPTER V

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

Based on the analysis conducted in this research, there are some conclusion resulted and achieve the research objective. The conclusions are:

1. Recruitment Criterion, Sub-Criterion, and assessment descriptions are defined by some research and discussion with 5 respondents who has authority in Recruitment System and Procedure Development.
2. The appropriate weight of each Criterion and Sub-Criterion are calculated by using Fuzzy Analytical Hierarchy Method. This method help to calculate weight of each criterion by involving 5 respondents judgment in comparing each criterion.
3. The recruitment rating system can cope with uncertainty and fuzziness in assessing the candidates has been helped by using Fuzzy Analytical Hierarchy Process. The method helps to recommend the good candidates by using calculation and rank.

5.2 Recommendation

In order to further improvement in recruitment process, some recommendation is given as follows:

1. For further research, find the other Multi Criteria Decision Making methodology which could fit applied with the model of recruitment in order to find the better solution

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APPENDICES

Appendix 1 – Questions for Data Collection

1. How the flow of Recruitment Process in LYS Corporation?
2. How the company assess prospective candidates each step of recruitment? Does the company have the assessment procedure to recruit the prospective candidates?
3. What are the problems occurred in current recruitment process?
4. What are assessment criterion for recruiting the prospective candidates?
5. Who are involved in recruitment criterion arrangement?
6. Is there any weight for every assessment criterion in recruitment process? How the company determine the recruitment criterions weight?

Appendix 2 – Weight of Recruitment Criterion Recalculation Form

Dear … ,

In order to recruitment development research, it needs to recalculate the weight of recruitment criterion by proper methodology. The weight calculation need the preference comparison of recruitment criterion and sub-criterion data. The data will be collected by filling the preference comparison table with the comparison scale below. Give your preference value in comparing the criterion and sub-criterion by checklist on the respective table.

Description	Preference Scale
Equally Important	1
	2
Weakly Important	3
	4
Strongly Important	5
	6
Very Important	7
	8
Absolutely Important	9

Notes: 2,4,6,8 are the intermittent values between two adjacent scales

Example:

Criterion	Scale																	Criterion
									Equal									
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
A											V							B

Description: Criterion B is weakly importance than criteria A in terms of recruitment process.

Preference Comparison BETWEEN CRITERIONS Forms

Criterion	Scale																	Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
General																		Educational Background
General																		Work Experience
General																		Psychological Test
General																		Personality
General																		Technical Skill
General																		Soft Skill
Educational Background																		Work Experience
Educational Background																		Psychological Test
Educational Background																		Personality
Educational Background																		Technical Skill
Educational Background																		Soft Skill
Work Experience																		Psychological Test
Work Experience																		Personality
Work Experience																		Technical Skill
Work Experience																		Soft Skill
Psychological Test																		Personality
Psychological Test																		Technical Skill
Psychological Test																		Soft Skill
Personality																		Technical Skill
Personality																		Soft Skill
Technical Skill																		Soft Skill

Preference Comparison BETWEEN SUB-CRITERIONS Forms

1. Sub-Criterion of General Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Age																		Health Condition
Age																		Gender
Health Condition																		Gender

2. Sub-Criterion of Educational Background Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Degree																		GPA
Degree																		Certification
GPA																		Certification

3. Sub-Criterion of Work Experience Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Knowledge																		Projects Related
Knowledge																		Current Salary
Knowledge																		Current Position
Projects Related																		Current Salary
Projects Related																		Current Position
Current Salary																		Current Position

4. Sub-Criterion of Psychological Test Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Emotional Quotient																		Spiritual Quotient
Emotional Quotient																		Intellectual Quotient
Spiritual Quotient																		Intellectual Quotient

5. Sub-Criterion of Personality Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Attitude																		Dicipline
Attitude																		Appearance
Attitude																		Independency
Attitude																		Initiative
Attitude																		Persistence
Attitude																		Responsibility
Dicipline																		Appearance
Dicipline																		Independency
Dicipline																		Initiative
Dicipline																		Persistence
Dicipline																		Responsibility
Appearance																		Independency
Appearance																		Initiative
Appearance																		Persistence
Appearance																		Responsibility
Independency																		Initiative
Independency																		Persistence
Independency																		Responsibility
Initiative																		Persistence
Initiative																		Responsibility
Persistence																		Responsibility

6. Sub-Criterion of Technical Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Project Management																		Planning Ability
Project Management																		Computer Competency
Project Management																		Language
Project Management																		Resoruceful
Planning Ability																		Computer Competency
Planning Ability																		Language
Planning Ability																		Resoruceful
Computer Competency																		Language
Computer Competency																		Resoruceful
Language																		Resoruceful

7. Sub-Criterion of Soft Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Communication																		Teamwork
Communication																		Judgement
Communication																		Leadership
Communication																		Decisive
Communication																		Analytical & Logical
Teamwork																		Judgement
Teamwork																		Leadership
Teamwork																		Decisive
Teamwork																		Analytical & Logical
Judgement																		Leadership
Judgement																		Decisive
Judgement																		Analytical & Logical
Leadership																		Decisive
Leadership																		Analytical & Logical
Decisive																		Analytical & Logical

Appendix 3 – Weight of Recruitment Criterion Recalculation Form (Filled)

Respondent 1

Preference Comparison BETWEEN CRITERIONS

Criterion	Scale																	Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
General							V											Educational Background
General							V											Work Experience
General					V													Psychological Test
General					V													Personality
General			V															Technical Skill
General			V															Soft Skill
Educational Background								V										Work Experience
Educational Background					V													Psychological Test
Educational Background					V													Personality
Educational Background					V													Technical Skill
Educational Background					V													Soft Skill
Work Experience						V												Psychological Test
Work Experience						V												Personality
Work Experience				V														Technical Skill
Work Experience				V														Soft Skill
Psychological Test							V											Personality
Psychological Test					V													Technical Skill
Psychological Test					V													Soft Skill
Personality							V											Technical Skill
Personality							V											Soft Skill
Technical Skill							V											Soft Skill

Preference Comparison BETWEEN SUB-CRITERIONS

1. Sub-Criterion of General Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Age									V									Health Condition
Age							V											Gender
Health Condition									V									Gender

2. Sub-Criterion of Educational Background Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Degree											V							GPA
Degree											V							Certification
GPA												V						Certification

3. Sub-Criterion of Work Experience Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Knowledge											V							Projects Related
Knowledge											V							Current Salary
Knowledge					V													Current Position
Projects Related												V						Current Salary
Projects Related					V													Current Position
Current Salary											V							Current Position

4. Sub-Criterion of Psychological Test Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Emotional Quotient								V										Spiritual Quotient
Emotional Quotient										V								Intellectual Quotient
Spiritual Quotient											V							Intellectual Quotient

5. Sub-Criterion of Personality Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Attitude							V											Dicipline
Attitude									V									Appearance
Attitude									V									Independency
Attitude									V									Initiative
Attitude							V											Persistence
Attitude					V													Responsibility
Dicipline									V									Appearance
Dicipline									V									Independency
Dicipline							V											Initiative
Dicipline							V											Persistence
Dicipline							V											Responsibility
Appearance									V									Independency
Appearance									V									Initiative
Appearance							V											Persistence
Appearance							V											Responsibility
Independency								V										Initiative
Independency							V											Persistence
Independency							V											Responsibility
Initiative							V											Persistence
Initiative							V											Responsibility
Persistence									V									Responsibility

6. Sub-Criterion of Technical Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Project Management											V							Planning Ability
Project Management											V							Computer Competency
Project Management					V													Language
Project Management									V									Resoruceful
Planning Ability												V						Computer Competency
Planning Ability					V													Language
Planning Ability							V											Resoruceful
Computer Competency											V							Language
Computer Competency								V										Resoruceful
Language							V											Resoruceful

7. Sub-Criterion of Soft Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Communication											V							Teamwork
Communication									V									Judgement
Communication									V									Leadership
Communication									V									Decisive
Communication			V															Analytical & Logical
Teamwork											V							Judgement
Teamwork											V							Leadership
Teamwork										V								Decisive
Teamwork				V														Analytical & Logical
Judgement										V								Leadership
Judgement									V									Decisive
Judgement		V																Analytical & Logical
Leadership									V									Decisive
Leadership			V															Analytical & Logical
Decisive			V															Analytical & Logical

.

Respondent 2

Preference Comparison BETWEEN CRITERIONS

Criterion	Scale																	Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
General					V													Educational Background
General					V													Work Experience
General									V									Psychological Test
General							V											Personality
General							V											Technical Skill
General									V									Soft Skill
Educational Background									V									Work Experience
Educational Background											V							Psychological Test
Educational Background							V											Personality
Educational Background											V							Technical Skill
Educational Background											V							Soft Skill
Work Experience													V					Psychological Test
Work Experience							V											Personality
Work Experience									V									Technical Skill
Work Experience											V							Soft Skill
Psychological Test							V											Personality
Psychological Test							V											Technical Skill
Psychological Test									V									Soft Skill
Personality											V							Technical Skill
Personality											V							Soft Skill
Technical Skill									V									Soft Skill

Preference Comparison BETWEEN SUB-CRITERIONS

1. Sub-Criterion of General Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Age													V					Health Condition
Age									V									Gender
Health Condition							V											Gender

2. Sub-Criterion of Educational Background Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Degree									V									GPA
Degree									V									Certification
GPA					V													Certification

3. Sub-Criterion of Work Experience Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Knowledge									V									Projects Related
Knowledge									V									Current Salary
Knowledge							V											Current Position
Projects Related											V							Current Salary
Projects Related											V							Current Position
Current Salary							V											Current Position

4. Sub-Criterion of Psychological Test Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Emotional Quotient										V								Spiritual Quotient
Emotional Quotient										V								Intellectual Quotient
Spiritual Quotient											V							Intellectual Quotient

5. Sub-Criterion of Personality Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Attitude											V							Dicipline
Attitude							V											Appearance
Attitude									V									Independency
Attitude							V											Initiative
Attitude							V											Persistence
Attitude							V											Responsibility
Dicipline											V							Appearance
Dicipline							V											Independency
Dicipline							V											Initiative
Dicipline							V											Persistence
Dicipline							V											Responsibility
Appearance							V											Independency
Appearance							V											Initiative
Appearance							V											Persistence
Appearance							V											Responsibility
Independency									V									Initiative
Independency							V											Persistence
Independency							V											Responsibility
Initiative							V											Persistence
Initiative							V											Responsibility
Persistence									V									Responsibility

6. Sub-Criterion of Technical Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Project Management									V									Planning Ability
Project Management									V									Computer Competency
Project Management							V											Language
Project Management							V											Resoruceful
Planning Ability											V							Computer Competency
Planning Ability											V							Language
Planning Ability							V											Resoruceful
Computer Competency							V											Language
Computer Competency							V											Resoruceful
Language							V											Resoruceful

7. Sub-Criterion of Soft Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Communication							V											Teamwork
Communication									V									Judgement
Communication									V									Leadership
Communication									V									Decisive
Communication											V							Analytical & Logical
Teamwork							V											Judgement
Teamwork									V									Leadership
Teamwork									V									Decisive
Teamwork														V				Analytical & Logical
Judgement									V									Leadership
Judgement									V									Decisive
Judgement														V				Analytical & Logical
Leadership									V									Decisive
Leadership									V									Analytical & Logical
Decisive													V					Analytical & Logical

Respondent 3

Preference Comparison BETWEEN CRITERIONS

Criterion	Scale																	Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
General											V							Educational Background
General									V									Work Experience
General									V									Psychological Test
General							V											Personality
General									V									Technical Skill
General									V									Soft Skill
Educational Background							V											Work Experience
Educational Background								V										Psychological Test
Educational Background							V											Personality
Educational Background									V									Technical Skill
Educational Background									V									Soft Skill
Work Experience											V							Psychological Test
Work Experience									V									Personality
Work Experience									V									Technical Skill
Work Experience									V									Soft Skill
Psychological Test							V											Personality
Psychological Test									V									Technical Skill
Psychological Test									V									Soft Skill
Personality											V							Technical Skill
Personality											V							Soft Skill
Technical Skill									V									Soft Skill

Preference Comparison BETWEEN SUB-CRITERIONS

1. Sub-Criterion of General Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Age										V								Health Condition
Age										V								Gender
Health Condition										V								Gender

2. Sub-Criterion of Educational Background Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Degree									V									GPA
Degree							V											Certification
GPA									V									Certification

3. Sub-Criterion of Work Experience Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Knowledge									V									Projects Related
Knowledge									V									Current Salary
Knowledge									V									Current Position
Projects Related									V									Current Salary
Projects Related									V									Current Position
Current Salary							V											Current Position

4. Sub-Criterion of Psychological Test Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Emotional Quotient								V										Spiritual Quotient
Emotional Quotient										V								Intellectual Quotient
Spiritual Quotient											V							Intellectual Quotient

5. Sub-Criterion of Personality Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Attitude									V									Dicipline
Attitude									V									Appearance
Attitude									V									Independency
Attitude									V									Initiative
Attitude									V									Persistence
Attitude									V									Responsibility
Dicipline									V									Appearance
Dicipline									V									Independency
Dicipline									V									Initiative
Dicipline									V									Persistence
Dicipline									V									Responsibility
Appearance											V							Independency
Appearance									V									Initiative
Appearance									V									Persistence
Appearance									V									Responsibility
Independency									V									Initiative
Independency									V									Persistence
Independency									V									Responsibility
Initiative									V									Persistence
Initiative									V									Responsibility
Persistence									V									Responsibility

6. Sub-Criterion of Technical Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Project Management									V									Planning Ability
Project Management									V									Computer Competency
Project Management									V									Language
Project Management												V						Resoruceful
Planning Ability									V									Computer Competency
Planning Ability									V									Language
Planning Ability											V							Resoruceful
Computer Competency							V											Language
Computer Competency														V				Resoruceful
Language									V									Resoruceful

7. Sub-Criterion of Soft Skill Sub-Criterion

Sub-Criterion	Scale																Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Communication									V									Teamwork
Communication									V									Judgement
Communication								V										Leadership
Communication									V									Decisive
Communication									V									Analytical & Logical
Teamwork									V									Judgement
Teamwork								V										Leadership
Teamwork									V									Decisive
Teamwork									V									Analytical & Logical
Judgement								V										Leadership
Judgement									V									Decisive
Judgement									V									Analytical & Logical
Leadership								V										Decisive
Leadership									V									Analytical & Logical
Decisive												V						Analytical & Logical

Respondent 4

Preference Comparison BETWEEN CRITERIONS

Criterion	Scale																	Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
General			V															Educational Background
General					V													Work Experience
General									V									Psychological Test
General						V												Personality
General					V													Technical Skill
General		V																Soft Skill
Educational Background									V									Work Experience
Educational Background									V									Psychological Test
Educational Background									V									Personality
Educational Background									V									Technical Skill
Educational Background									V									Soft Skill
Work Experience									V									Psychological Test
Work Experience									V									Personality
Work Experience					V													Technical Skill
Work Experience			V															Soft Skill
Psychological Test						V												Personality
Psychological Test									V									Technical Skill
Psychological Test						V												Soft Skill
Personality									V									Technical Skill
Personality			V															Soft Skill
Technical Skill			V															Soft Skill

Preference Comparison BETWEEN SUB-CRITERIONS

1. Sub-Criterion of General Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Age										V								Health Condition
Age										V								Gender
Health Condition									V									Gender

2. Sub-Criterion of Educational Background Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Degree									V									GPA
Degree								V										Certification
GPA												V						Certification

3. Sub-Criterion of Work Experience Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Knowledge									V									Projects Related
Knowledge											V							Current Salary
Knowledge											V							Current Position
Projects Related												V						Current Salary
Projects Related											V							Current Position
Current Salary											V							Current Position

4. Sub-Criterion of Psychological Test Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Emotional Quotient										V								Spiritual Quotient
Emotional Quotient										V								Intellectual Quotient
Spiritual Quotient											V							Intellectual Quotient

5. Sub-Criterion of Personality Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Attitude							V											Dicipline
Attitude											V							Appearance
Attitude											V							Independency
Attitude					V													Initiative
Attitude			V															Persistence
Attitude				V														Responsibility
Dicipline												V						Appearance
Dicipline					V													Independency
Dicipline									V									Initiative
Dicipline					V													Persistence
Dicipline				V														Responsibility
Appearance									V									Independency
Appearance						V												Initiative
Appearance						V												Persistence
Appearance						V												Responsibility
Independency						V												Initiative
Independency					V													Persistence
Independency					V													Responsibility
Initiative					V													Persistence
Initiative					V													Responsibility
Persistence															V			Responsibility

6. Sub-Criterion of Technical Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Project Management									V									Planning Ability
Project Management											V							Computer Competency
Project Management											V							Language
Project Management											V							Resoruceful
Planning Ability												V						Computer Competency
Planning Ability											V							Language
Planning Ability									V									Resoruceful
Computer Competency											V							Language
Computer Competency											V							Resoruceful
Language						V												Resoruceful

7. Sub-Criterion of Soft Skill Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Communication									V									Teamwork
Communication														V				Judgement
Communication														V				Leadership
Communication									V									Decisive
Communication											V							Analytical & Logical
Teamwork									V									Judgement
Teamwork											V							Leadership
Teamwork							V											Decisive
Teamwork												V						Analytical & Logical
Judgement									V									Leadership
Judgement											V							Decisive
Judgement													V					Analytical & Logical
Leadership													V					Decisive
Leadership											V							Analytical & Logical
Decisive									V									Analytical & Logical

Respondent 5

Preference Comparison BETWEEN CRITERIONS

Criterion	Scale																	Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
General					V													Educational Background
General							V											Work Experience
General									V									Psychological Test
General							V											Personality
General					V													Technical Skill
General					V													Soft Skill
Educational Background							V											Work Experience
Educational Background								V										Psychological Test
Educational Background											V							Personality
Educational Background										V								Technical Skill
Educational Background									V									Soft Skill
Work Experience									V									Psychological Test
Work Experience										V								Personality
Work Experience									V									Technical Skill
Work Experience									V									Soft Skill
Psychological Test									V									Personality
Psychological Test								V										Technical Skill
Psychological Test									V									Soft Skill
Personality								V										Technical Skill
Personality									V									Soft Skill
Technical Skill										V								Soft Skill

Preference Comparison BETWEEN SUB-CRITERIONS

1. Sub-Criterion of General Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Age										V								Health Condition
Age										V								Gender
Health Condition										V								Gender

2. Sub-Criterion of Educational Background Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Degree										V								GPA
Degree										V								Certification
GPA									V									Certification

3. Sub-Criterion of Work Experience Sub-Criterion

Sub-Criterion	Scale																	Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Knowledge										V								Projects Related
Knowledge										V								Current Salary
Knowledge										V								Current Position
Projects Related									V									Current Salary
Projects Related										V								Current Position
Current Salary										V								Current Position

4. Sub-Criterion of Psychological Test Sub-Criterion

Sub-Criterion	Scale																Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Emotional Quotient										V								Spiritual Quotient
Emotional Quotient										V								Intellectual Quotient
Spiritual Quotient											V							Intellectual Quotient

5. Sub-Criterion of Personality Sub-Criterion

Sub-Criterion	Scale																Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Attitude										V								Dicipline
Attitude									V									Appearance
Attitude									V									Independency
Attitude									V									Initiative
Attitude					V													Persistence
Attitude					V													Responsibility
Dicipline									V									Appearance
Dicipline									V									Independency
Dicipline									V									Initiative
Dicipline					V													Persistence
Dicipline							V											Responsibility
Appearance							V											Independency
Appearance									V									Initiative
Appearance					V													Persistence
Appearance							V											Responsibility
Independency									V									Initiative
Independency						V												Persistence
Independency									V									Responsibility
Initiative							V											Persistence
Initiative								V										Responsibility
Persistence										V								Responsibility

6. Sub-Criterion of Technical Skill Sub-Criterion

Sub-Criterion	Scale																Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Project Management										V								Planning Ability
Project Management										V								Computer Competency
Project Management										V								Language
Project Management									V									Resoruceful
Planning Ability									V									Computer Competency
Planning Ability										V								Language
Planning Ability								V										Resoruceful
Computer Competency										V								Language
Computer Competency								V										Resoruceful
Language								V										Resoruceful

7. Sub-Criterion of Soft Skill Sub-Criterion

Sub-Criterion	Scale																Sub-Criterion
	9	8	7	6	5	4	3	2	1	2	3	4	5	6	7	8	9	
Communication									V									Teamwork
Communication										V								Judgement
Communication										V								Leadership
Communication									V									Decisive
Communication									V									Analytical & Logical
Teamwork										V								Judgement
Teamwork										V								Leadership
Teamwork									V									Decisive
Teamwork									V									Analytical & Logical
Judgement									V									Leadership
Judgement								V										Decisive
Judgement								V										Analytical & Logical
Leadership								V										Decisive
Leadership													V					Analytical & Logical
Decisive														V				Analytical & Logical

Appendix 4 – Pairwise Comparison Matrix of Criterion and Sub-Criterion

Pairwise Comparison matrix of Criterion

1	C1	C2	C3	C4	C5	C6	C7
C1	1	1/3	1/3	1/5	1/5	1/7	1/7
C2	3	1	1/2	1/5	1/5	1/5	1/5
C3	3	2	1	1/4	1/4	1/6	1/6
C4	5	5	4	1	1/3	1/5	1/5
C5	5	5	4	3	1	1/3	1/3
C6	7	5	6	5	3	1	1/3
C7	7	5	6	5	3	3	1

2	C1	C2	C3	C4	C5	C6	C7
C1	1	1/5	1/5	1	1/3	1/3	1
C2	5	1	1	3	1/3	3	3
C3	5	1	1	5	1/3	1	3
C4	1	1/3	1/5	1	1/3	1/3	1
C5	3	3	3	3	1	3	3
C6	3	1/3	1	3	1/3	1	1
C7	1	1/3	1/3	1	1/3	1	1

3	C1	C2	C3	C4	C5	C6	C7
C1	1	3	1	1	1/3	1	1
C2	1/3	1	1/3	1/2	1/3	1	1
C3	1	3	1	3	1	1	1
C4	1	2	1/3	1	1/3	1	1
C5	3	3	1	3	1	3	3
C6	1	1	1	1	1/3	1	1
C7	1	1	1	1	1/3	1	1

4	C1	C2	C3	C4	C5	C6	C7
C1	1	1/7	1/5	1	1/4	1/5	1/8
C2	7	1	1	1	1	1	1
C3	5	1	1	1	1	1/5	1/7
C4	1	1	1	1	1/4	1	1/5
C5	4	1	1	4	1	1	1/7
C6	5	1	5	1	1	1	1/7
C7	8	1	7	5	7	7	1

5	C1	C2	C3	C4	C5	C6	C7
C1	1	1/5	1/3	1	1/3	1/5	1/5
C2	5	1	1/3	1/2	3	2	1
C3	3	3	1	1	2	1	1
C4	1	2	1	1	1	1/2	1
C5	3	1/3	1/2	1	1	1/2	1
C6	5	1/2	1	2	2	1	2
C7	5	1	1	1	1	1/2	1

Pairwise Comparison matrix of General Sub-Criterion

1	C1-1	C1-2	C1-3
C1-1	1	1	1/3
C1-2	1	1	1
C1-3	3	1	1

2	C1-1	C1-2	C1-3
C1-1	1	5	1
C1-2	1/5	1	1/3
C1-3	1	3	1

3	C1-1	C1-2	C1-3
C1-1	1	2	2
C1-2	1/2	1	2
C1-3	1/2	1/2	1

4	C1-1	C1-2	C1-3
C1-1	1	2	2
C1-2	1/2	1	1
C1-3	1/2	1	1

5	C1-1	C1-2	C1-3
C1-1	1	2	2
C1-2	1/2	1	2
C1-3	1/2	1/2	1

Pairwise Comparison matrix of Educational Background Sub-Criterion

1	C2-1	C2-2	C2-3
C2-1	1	3	3
C2-2	1/3	1	4
C2-3	1/3	1/4	1

2	C2-1	C2-2	C2-3
C2-1	1	1	1
C2-2	1	1	1/5
C2-3	1	5	1

3	C2-1	C2-2	C2-3
C2-1	1	1	1/3
C2-2	1	1	1
C2-3	3	1	1

4	C2-1	C2-2	C2-3
C2-1	1	1	1/2
C2-2	1	1	4
C2-3	2	1/4	1

5	C2-1	C2-2	C2-3
C2-1	1	2	2
C2-2	1/2	1	1
C2-3	1/2	1	1

Pairwise Comparison matrix of Work Experience Sub-Criterion

1	C3-1	C3-2	C3-3	C3-4
C3-1	1	3	3	1/5
C3-2	1/3	1	4	1/5
C3-3	1/3	1/4	1	3
C3-4	5	5	1/3	1

2	C3-1	C3-2	C3-3	C3-4
C3-1	1	1	1	1/3
C3-2	1	1	3	3
C3-3	1	1/3	1	1/3
C3-4	3	1/3	3	1

3	C3-1	C3-2	C3-3	C3-4
C3-1	1	1	1	1
C3-2	1	1	1	1
C3-3	1	1	1	1/3
C3-4	1	1	3	1

4	C3-1	C3-2	C3-3	C3-4
C3-1	1	1	3	3
C3-2	1	1	4	3
C3-3	1/3	1/4	1	3
C3-4	1/3	1/3	1/3	1

5	C3-1	C3-2	C3-3	C3-4
C3-1	1	2	2	2
C3-2	1/2	1	1	2
C3-3	1/2	1	1	2
C3-4	1/2	1/2	1/2	1

Pairwise Comparison matrix of Psychological Test Sub-Criterion

1	C4-1	C4-2	C4-3
C4-1	1	1/2	2
C4-2	2	1	3
C4-3	1/2	1/3	1

2	C4-1	C4-2	C4-3
C4-1	1	2	2
C4-2	1/2	1	3
C4-3	1/2	1/3	1

3	C4-1	C4-2	C4-3
C4-1	1	1/2	2
C4-2	2	1	3
C4-3	1/2	1/3	1

4	C4-1	C4-2	C4-3
C4-1	1	2	2
C4-2	1/2	1	3
C4-3	1/2	1/3	1

5	C4-1	C4-2	C4-3
C4-1	1	2	2
C4-2	1/2	1	3
C4-3	1/2	1/3	1

Pairwise Comparison matrix of Personality Sub-Criterion

1	C5-1	C5-2	C5-3	C5-4	C5-5	C5-6	C5-7
C5-1	1	3	1	1	1	1/3	1/5
C5-2	1/3	1	1	1	1/3	1/3	1/3
C5-3	1	1	1	1	1	1/3	1/3
C5-4	1	1	1	1	1/2	1/3	1/3
C5-5	1	3	1	2	1	1/3	1/3
C5-6	3	3	3	3	3	1	1
C5-7	5	3	3	3	3	1	1

2	C5-1	C5-2	C5-3	C5-4	C5-5	C5-6	C5-7
C5-1	1	3	1/3	1	1/3	1/3	1/3
C5-2	1/3	1	3	1/3	1/3	1/3	1/3
C5-3	3	1/3	1	1/3	1/3	1/3	1/3
C5-4	1	3	3	1	1	1/3	1/3
C5-5	3	3	3	1	1	1/3	1/3
C5-6	3	3	3	3	3	1	1
C5-7	3	3	3	3	3	1	1

3	C5-1	C5-2	C5-3	C5-4	C5-5	C5-6	C5-7
C5-1	1	1	1	1	1	1	1
C5-2	1	1	1	1	1	1	1
C5-3	1	1	1	3	1	1	1
C5-4	1	1	1/3	1	1	1	1
C5-5	1	1	1	1	1	1	1
C5-6	1	1	1	1	1	1	1
C5-7	1	1	1	1	1	1	1

4	C5-1	C5-2	C5-3	C5-4	C5-5	C5-6	C5-7
C5-1	1	1/3	3	3	1/5	1/7	1/6
C5-2	3	1	4	1/5	1	1/5	1/6
C5-3	1/3	1/4	1	1	1/4	1/4	1/4
C5-4	1/3	3	1	1	1/4	1/5	1/5
C5-5	5	1	4	4	1	1/5	1/5
C5-6	7	6	4	5	5	1	7
C5-7	6	6	4	5	5	1/7	1

5	C5-1	C5-2	C5-3	C5-4	C5-5	C5-6	C5-7
C5-1	1	2	1	1	1	1/5	1/5
C5-2	1/2	1	1	1	1	1/5	1/3
C5-3	1	1	1	1/3	1	1/5	1/3
C5-4	1	1	2	1	1	1/4	1
C5-5	1	1	1	1	1	1/3	1/2
C5-6	5	5	5	4	3	1	2
C5-7	3	3	3	1	2	1/3	1

Pairwise Comparison matrix of Technical Skill Sub-Criterion

1	C6-1	C6-2	C6-3	C6-4	C6-5
C6-1	1	3	3	1/5	1
C6-2	1/3	1	4	1/5	1/3
C6-3	1/3	1/4	1	3	1/2
C6-4	5	5	1/3	1	1/3
C6-5	1	3	2	3	1

2	C6-1	C6-2	C6-3	C6-4	C6-5
C6-1	1	1	1	1/3	1/3
C6-2	1	1	3	3	1/3
C6-3	1	1/3	1	1/3	1/3
C6-4	3	1/3	3	1	1/3
C6-5	3	3	3	3	1

3	C6-1	C6-2	C6-3	C6-4	C6-5
C6-1	1	1	1	1	4
C6-2	1	1	1	1	3
C6-3	1	1	1	1/3	6
C6-4	1	1	3	1	1
C6-5	1/4	1/3	1/6	1	1

4	C6-1	C6-2	C6-3	C6-4	C6-5
C6-1	1	1	3	3	3
C6-2	1	1	4	3	1
C6-3	1/3	1/4	1	3	3
C6-4	1/3	1/3	1/3	1	1/4
C6-5	1/3	1	1/3	4	1

5	C6-1	C6-2	C6-3	C6-4	C6-5
C6-1	1	2	2	2	1
C6-2	1/2	1	1	2	1/2
C6-3	1/2	1	1	2	1/2
C6-4	1/2	1/2	1/2	1	1/2
C6-5	1	2	2	2	1

Pairwise Comparison matrix of Soft Skill Sub-Criterion

1	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6
C7-1	1	3	1	1	1	1/7
C7-2	3	1	3	3	2	1/6
C7-3	1	1/3	1	2	1	1/8
C7-4	1	1/3	1/2	1	1	1/7
C7-5	1	1/2	1	1	1	1/7
C7-6	7	6	8	7	7	1

2	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6
C7-1	1	1/3	1	1	1	3
C7-2	3	1	1/3	1	1	6
C7-3	1	3	1	1	1	6
C7-4	1	1	1	1	1	1
C7-5	1	1	1	1	1	5
C7-6	1/3	1/6	1/6	1	1/5	1

3	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6
C7-1	1	1	1	1/2	1	1
C7-2	1	1	1	1/2	1	1
C7-3	1	1	1	1/2	1	1
C7-4	2	2	2	1	1/2	1
C7-5	1	1	1	2	1	4
C7-6	1	1	1	1	1/4	1

4	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6
C7-1	1	1	6	6	1	3
C7-2	1	1	1	3	1/3	4
C7-3	1/6	1	1	1	3	5
C7-4	1/6	1/3	1	1	5	3
C7-5	1	3	1/3	1/5	1	1
C7-6	1/3	1/4	1/5	1/3	1	1

5	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6
C7-1	1	1	2	2	1	1
C7-2	1	1	2	2	1	1
C7-3	1/2	1/2	1	1	1/2	1/2
C7-4	1/2	1/2	1	1	1/2	5
C7-5	1	1	2	2	1	6
C7-6	1	1	2	1/5	1/6	1

Appendix 5 – Consistency Ratio Calculation of Criterion and Sub-Criterion

Consistency Ratio of Criterion

	C1	C2	C3	C4	C5	C6	C7	Eigen Vector
C1	1	0.356	0.3385	0.7248	0.2841	0.2857	0.324	0.0547
C2	2.8094	1	0.561	0.6843	0.5818	1.0371	0.9029	0.1268
C3	2.9542	1.7826	1	1.3026	0.6988	0.5065	0.5899	0.1395
C4	1.3797	1.4614	0.7677	1	0.392	0.5065	0.5253	0.1026
C5	3.5195	1.7188	1.431	2.5508	1	1.0845	0.8441	0.1981
C6	3.4997	0.9642	1.9744	1.9744	0.9221	1	0.6248	0.1762
C7	3.0863	1.1076	1.6952	1.9037	1.1847	1.6004	1	0.2021
Sum	18.249	8.3905	7.7677	10.14	5.0636	6.0208	4.811	1
	Eigen Value							7.2228
	CI							0.0371
	CR							0.0281

Consistency Ratio of General Sub-Criterion

	C1-1	C1-2	C1-3	Eigen Vector
C1-1	1	2.091279	1.216729	0.44147
C1-2	0.478176	1	1.059224	0.25968
C1-3	0.821876	0.944088	1	0.29885
Sum	2.300052	4.035367	3.275953	1
	Eigen Value			3.042322348
	CI			0.021161174
	CR			0.036484782

Consistency Ratio of Educational Background Sub-Criterion

	C2-1	C2-2	C2-3	Eigen Vector
C2-1	1	1.430969	1	37%
C2-2	0.698827	1	1.261915	32%
C2-3	1	0.792447	1	31%
Sum	2.698827	3.223416	3.261915	1
	Eigen Value			3.039233416
	CI			0.019616708
	CR			0.033821911

Consistency Ratio of Work Experience Sub-Criterion

	C3-1	C3-2	C3-3	C3-4	Eigen Vector
C3-1	1	1.430969	1.782602	0.832553	0.295070
C3-2	0.698827	1	2.168944	1.291994	0.287394
C3-3	0.560978	0.461054	1	1.148698	0.182106
C3-4	1.201124	0.773997	0.870551	1	0.235430
Sum	3.460929	3.66602	5.822097	4.273246	1
	Eigen Value				4.141097422
	CI				0.047032474
	CR				0.052258305

Consistency Ratio of Psychological Test Sub-Criterion

	C4-1	C4-2	C4-3	Eigen Vector
C4-1	1	1.148698	2	0.405993981
C4-2	0.870551	1	3	0.423377115
C4-3	0.5	0.333333	1	0.170628904
Sum	2.370551	2.482032	6	1
	Eigen Value			3.037038102
	CI			0.018519051
	CR			0.031929398

Consistency Ratio of Personality Sub-Criterion

	C5-1	C5-2	C5-3	C5-4	C5-5	C5-6	C5-7	Eigen Vector
C5-1	1	1.430969	1	1.245731	0.581811	0.316474	0.294685	0.09178414
C5-2	0.698827	1	1.643752	0.581811	0.644394	0.338504	0.361491	0.08535191
C5-3	1	0.608364	1	0.802742	0.608364	0.353953	0.392026	0.08079461
C5-4	0.802742	1.551846	1.148698	1	0.659754	0.353953	0.467044	0.09734694
C5-5	1.718772	1.551846	1.643752	1.515717	1	0.374915	0.406585	0.12673445
C5-6	3.159818	3.063887	2.825235	2.825235	2.667269	1	1.695218	0.29026228
C5-7	3.063887	2.766324	2.550849	2.141127	2.459509	0.543946	1	0.22772565
Sum	11.44405	11.97324	11.81229	10.11236	8.621101	3.281745	4.617049	1
	Eigen Value							7.107674838
	CI							0.017945806
	CR							0.013595308

Consistency Ratio of Technical Skill Sub-Criterion

	C6-1	C6-2	C6-3	C6-4	C6-5	Eigen Vector
C6-1	1	1.430969	1.782602	0.832553	1.319508	0.23983477
C6-2	0.698827	1	2.168944	1.291994	0.698827	0.20655685
C6-3	0.560978	0.461054	1	1.148698	1.084472	0.15691739
C6-4	1.201124	0.773997	0.870551	1	0.425142	0.16209410
C6-5	0.757858	1.430969	0.922108	2.352158	1	0.23459689
Sum	4.218787	5.09699	6.744204	6.625404	4.527948	1
	Eigen Value					5.259094403
	CI					0.064773601
	CR					0.057833572

Consistency Ratio of Soft Skill Sub-Criterion

	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6	Eigen Vector
C7-1	1	1	1.643752	1.430969	1	1.051547	0.189647009
C7-2	1.551846	1	1.148698	1.551846	0.922108	1.319508	0.199629041
C7-3	0.608364	0.870551	1	1	1.084472	1.133967	0.151906933
C7-4	0.698827	0.644394	1	1	1.04564	1.164659	0.147002284
C7-5	1	1.084472	0.922108	0.956352	1	1.765292	0.178404903
C7-6	0.950979	0.757858	0.88186	0.858621	0.566478	1	0.13340983
Sum	5.810016	5.357275	6.596418	6.797788	5.618698	7.434973	1
	Eigen Value						6.166953536
	CI						0.033390707
	CR						0.02692799

Appendix 6 – Weight of Criterions and Sub-Criterions Calculation

1. Consistency Ratio of Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/5	1/3	1	1/5	1/3	1	1/7	1/5	1/3	1/7	1/5	1/3	1/9	1/7	1/5	1/9	1/7	1/5
C2	1	3	5	1	1	1	1/4	1/2	1	1/7	1/5	1/3	1/7	1/5	1/3	1/7	1/5	1/3	1/7	1/5	1/3
C3	1	3	5	1	2	4	1	1	1	1/6	1/4	1/2	1/6	1/4	1/2	1/8	1/6	1/4	1/8	1/6	1/4
C4	3	5	7	3	5	7	2	4	6	1	1	1	1/5	1/3	1	1/7	1/5	1/3	1/7	1/5	1/3
C5	3	5	7	3	5	7	2	4	6	1	3	5	1	1	1	1/5	1/3	1	1/5	1/3	1
C6	5	7	9	3	5	7	4	6	8	3	5	7	1	3	5	1	1	1	1/5	1/3	1
C7	5	7	9	3	5	7	4	6	8	3	5	7	1	3	5	1	3	5	1	1	1

2	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/7	1/5	1/3	1/7	1/5	1/3	1	1	1	1/5	1/3	1	1/5	1/3	1	1	1	1
C2	3	5	7	1	1	1	1	1	1	1	3	5	1/5	1/3	1	1	3	5	1	3	5
C3	3	5	7	1	1	1	1	1	1	3	5	7	1/5	1/3	1	1	1	1	1	3	5
C4	1	1	1	1/5	1/3	1	1/7	1/5	1/3	1	1	1	1/5	1/3	1	1/5	1/3	1	1	1	1
C5	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1	1	3	5	1	3	5
C6	1	3	5	1/5	1/3	1	1	1	1	1	3	5	1/5	1/3	1	1	1	1	1	1	1
C7	1	1	1	1/5	1/3	1	1/5	1/3	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1

3	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1	3	5	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1
C2	1/5	1/3	1	1	1	1	1/5	1/3	1	1/4	1/2	1	1/5	1/3	1	1	1	1	1	1	1
C3	1	1	1	1	3	5	1	1	1	1	3	5	1	1	1	1	1	1	1	1	1
C4	1	1	1	1	2	4	1/5	1/3	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1
C5	1	3	5	1	3	5	1	1	1	1	3	5	1	1	1	1	3	5	1	3	5
C6	1	1	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1
C7	1	1	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1

4	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/9	1/7	1/5	1/7	1/5	1/3	1	1	1	1/6	1/4	1/2	1/7	1/5	1/3	1/9	1/8	1/6
C2	5	7	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C3	3	5	7	1	1	1	1	1	1	1	1	1	1	1	1	1/7	1/5	1/3	1/9	1/7	1/5
C4	1	1	1	1	1	1	1	1	1	1	1	1	1/6	1/4	1/2	1	1	1	1/7	1/5	1/3
C5	2	4	6	1	1	1	1	1	1	2	4	6	1	1	1	1	1	1	1/9	1/7	1/5
C6	3	5	7	1	1	1	3	5	7	1	1	1	1	1	1	1	1	1	1/9	1/7	1/5
C7	6	8	9	1	1	1	5	7	9	3	5	7	5	7	9	5	7	9	1	1	1

5	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	1/7	1/5	1/3	1/5	1/3	1	1	1	1	1/5	1/3	1	1/7	1/5	1/3	1/7	1/5	1/3
C2	3	5	7	1	1	1	1/5	1/3	1	1/4	1/2	1	1	3	5	1	2	4	1	1	1
C3	1	3	5	1	3	5	1	1	1	1	1	1	1	2	4	1	1	1	1	1	1
C4	1	1	1	1	2	4	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1
C5	1	3	5	1/5	1/3	1	1/4	1/2	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1
C6	3	5	7	1/4	1/2	1	1	1	1	1	2	4	1	2	4	1	1	1	1	2	4
C7	3	5	7	1	1	1	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1

Aggregate Value Matrix of Criterion

	C1			C2			C3			C4			C5			C6			C7		
C1	1	1	1	0.32	0.78	1.37	0.34	0.41	0.73	0.83	0.84	0.87	0.18	0.29	0.77	0.32	0.38	0.57	0.47	0.49	0.54
C2	2.44	4.07	5.8	1	1	1	0.53	0.63	1	0.53	1.04	1.67	0.51	0.97	1.67	0.83	1.44	2.27	0.83	1.24	1.67
C3	1.8	3.4	5	1	2	3.2	1	1	1	1.23	2.05	2.9	0.67	0.92	1.5	0.65	0.67	0.72	0.65	1.06	1.49
C4	1.4	1.8	2.2	1.24	2.07	3.4	0.87	1.31	1.87	1	1	1	0.35	0.45	0.9	0.52	0.61	0.87	0.66	0.68	0.73
C5	1.6	3.6	5.6	1.24	2.47	3.8	1.05	1.9	2.8	1.2	2.8	4.4	1	1	1	0.69	1.57	2.6	0.66	1.5	2.44
C6	2.6	4.2	5.8	1.09	1.57	2.2	2	2.8	3.6	1.4	2.4	3.6	0.68	1.33	2.4	1	1	1	0.66	0.9	1.44
C7	3.2	4.4	5.4	1.24	1.67	2.2	2.24	3.07	4	1.8	2.6	3.4	1.48	2.33	3.4	1.65	2.5	3.4	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criterion	ri		
C1	0.4237	0.5459	0.7986
C2	0.8149	1.2457	1.7985
C3	0.9366	1.3717	1.8506
C4	0.7837	0.9854	1.3456
C5	1.0192	1.9589	2.8849
C6	1.1995	1.7622	2.4766
C7	1.6881	2.3006	2.9331
Total	6.8658	10.1705	14.0879
Reverse	0.1457	0.0983	0.0710
Increasing Order	**0.0710**	**0.0983**	**0.1457**

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criterion	Wi			Mi	Ni	%
C1	0.0301	0.0537	0.1163	0.0667	0.05653	5.65%
C2	0.0578	0.1225	0.2620	0.1474	0.124964	12.50%
C3	0.0665	0.1349	0.2695	0.1570	0.133047	13.30%
C4	0.0556	0.0969	0.1960	0.1162	0.098468	9.85%
C5	0.0723	0.1926	0.4202	0.2284	0.193582	19.36%
C6	0.0851	0.1733	0.3607	0.2064	0.174935	17.49%
C7	0.1198	0.2262	0.4272	0.2577	0.218475	21.85%
Total				1.1798	1	100%

2. Consistency Ratio of General Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C1-1			C1-2			C1-3		
C1-1	1	1	1	1	1	1	1/5	1/3	1
C1-2	1	1	1	1	1	1	1	1	1
C1-3	1	3	5	1	1	1	1	1	1

2	C1-1			C1-2			C1-3		
C1-1	1	1	1	3	5	7	1	1	1
C1-2	1/7	1/5	1/3	1	1	1	1/5	1/3	1
C1-3	1	1	1	1	3	5	1	1	1

3	C1-1			C1-2			C1-3		
C1-1	1	1	1	1	2	4	1	2	4
C1-2	1/4	1/2	1	1	1	1	1	2	4
C1-3	1/4	1/2	1	1/4	1/2	1	1	1	1

4	C1-1			C1-2			C1-3		
C1-1	1	1	1	1	2	4	1	2	4
C1-2	1/4	1/2	1	1	1	1	1	1	1
C1-3	1/4	1/2	1	1	1	1	1	1	1

5	C1-1			C1-2			C1-3		
C1-1	1	1	1	1	2	4	1	2	4
C1-2	1/4	1/2	1	1	1	1	1	2	4
C1-3	1/4	1/2	1	1/4	1/2	1	1	1	1

Aggregate Value Matrix of Criterion

	C1-1			C1-2			C1-3		
C1-1	1	1	1	1 2/5	2 2/5	4	5/6	1 1/2	2 4/5
C1-2	3/8	1/2	6/7	1	1	1	5/6	1 1/4	2 1/5
C1-3	5/9	1 1/9	1 4/5	2/3	1 1/5	1 4/5	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C1-1	1.0330	1.2862	1.6212
C1-2	0.7952	0.9269	1.1378
C1-3	0.8262	1.0571	1.2651
Total	2.6544	3.2702	4.0241
Reverse	0.3767	0.3058	0.2485
Increasing	0.2485	0.3058	0.3767

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	Wi			Mi	Ni	%
C1-1	0.2567	0.3933	0.6108	0.4203	0.397018	39.70%
C1-2	0.1976	0.2834	0.4286	0.3032	0.286457	28.65%
C1-3	0.2053	0.3233	0.4766	0.3351	0.316525	31.65%
Total				1.0585	1	100%

3. Consistency Ratio of Educational Background Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C2-1			C2-2			C2-3		
C2-1	1	1	1	1	3	5	1	3	5
C2-2	1/5	1/3	1	1	1	1	2	4	6
C2-3	1/5	1/3	1	1/6	1/4	1/2	1	1	1

2	C2-1			C2-2			C2-3		
C2-1	1	1	1	1	1	1	1	1	1
C2-2	1	1	1	1	1	1	1/7	1/5	1/3
C2-3	1	1	1	3	5	7	1	1	1

3	C2-1			C2-2			C2-3		
C2-1	1	1	1	1	1	1	1/5	1/3	1
C2-2	1	1	1	1	1	1	1	1	1
C2-3	1	3	5	1	1	1	1	1	1

4	C2-1			C2-2			C2-3		
C2-1	1	1	1	1	1	1	1/4	1/2	1
C2-2	1	1	1	1	1	1	2	4	6
C2-3	1	2	4	1/6	1/4	1/2	1	1	1

5	C2-1			C2-2			C2-3		
C2-1	1	1	1	1	2	4	1	2	4
C2-2	1/4	1/2	1	1	1	1	1	1	1
C2-3	1/4	1/2	1	1	1	1	1	1	1

Aggregate Value Matrix of Criterion

	C2-1			C2-2			C2-3		
C2-1	1	1	1	1	1 3/5	2 2/5	2/3	1 3/8	2 2/5
C2-2	2/3	3/4	1	1	1	1	1 2/9	2	2 6/7
C2-3	2/3	1 3/8	2 2/5	1	1 1/2	2	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C2-1	0.9285	1.1694	1.4193
C2-2	0.9675	1.0936	1.2345
C2-3	0.9405	1.1544	1.3685
Total	2.8365	3.4173	4.0223
Reverse	0.3525	0.2926	0.2486
Increasing	0.2486	0.2926	0.3525

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	wi			Mi	Ni	%
C2-1	0.2308	0.3422	0.5004	0.3578	0.343682	34.37%
C2-2	0.2405	0.3200	0.4352	0.3319	0.318817	31.88%
C2-3	0.2338	0.3378	0.4825	0.3514	0.337501	33.75%
Total				1.0411	1	100%

4. Consistency Ratio of Work Experience Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C3-1			C3-2			C3-3			C3-4		
C3-1	1	1	1	1	3	5	1	3	5	1/7	1/5	1/3
C3-2	1/5	1/3	1	1	1	1	2	4	6	1/7	1/5	1/3
C3-3	1/5	1/3	1	1/6	1/4	1/2	1	1	1	1	3	5
C3-4	3	5	7	3	5	7	1/5	1/3	1	1	1	1

2	C3-1			C3-2			C3-3			C3-4		
C3-1	1	1	1	1	1	1	1	1	1	1/5	1/3	1
C3-2	1	1	1	1	1	1	1	3	5	1	3	5
C3-3	1	1	1	1/5	1/3	1	1	1	1	1/5	1/3	1
C3-4	1	3	5	1/5	1/3	1	1	3	5	1	1	1

3	C3-1			C3-2			C3-3			C3-4		
C3-1	1	1	1	1	1	1	1	1	1	1	1	1
C3-2	1	1	1	1	1	1	1	1	1	1	1	1
C3-3	1	1	1	1	1	1	1	1	1	1/5	1/3	1
C3-4	1	1	1	1	1	1	1	3	5	1	1	1

4	C3-1			C3-2			C3-3			C3-4		
C3-1	1	1	1	1	1	1	1	3	5	1	3	5
C3-2	1	1	1	1	1	1	2	4	6	1	3	5
C3-3	1/5	1/3	1	1/6	1/4	1/2	1	1	1	1	3	5
C3-4	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1	1	1	1

5	C3-1			C3-2			C3-3			C3-4		
C3-1	1	1	1	1	2	4	1	2	4	1	2	4
C3-2	1/4	1/2	1	1	1	1	1	1	1	1	2	4
C3-3	1/4	1/2	1	1	1	1	1	1	1	1	2	4
C3-4	1/4	1/2	1	1/4	1/2	1	1/4	1/2	1	1	1	1

Aggregate Value Matrix of Criterion

	C3-1			C3-2			C3-3			C3-4		
C3-1	1	1	1	1	1 3/5	2 2/5	1	2	3 1/5	2/3	1 1/3	2 1/4
C3-2	2/3	3/4	1	1	1	1	1 2/5	2 3/5	3 4/5	5/6	1 5/6	3
C3-3	1/2	5/8	1	1/2	4/7	4/5	1	1	1	2/3	1 3/4	3 1/5
C3-4	1	2	3	1	1 3/7	2 1/5	1/2	1 3/7	2 3/5	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C3-1	0.9226	1.3313	1.7707
C3-2	0.9564	1.2968	1.6341
C3-3	0.7117	0.9094	1.2068
C3-4	0.8832	1.3222	1.7656
Total	3.4739	4.8597	6.3773
Reverse	0.2879	0.2058	0.1568
Increasing	0.1568	0.2058	0.2879

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	Wi			Mi	Ni	%
C3-1	0.1447	0.2739	0.5097	0.3094	0.274613078	27.46%
C3-2	0.1500	0.2669	0.4704	0.2957	0.262455275	26.25%
C3-3	0.1116	0.1871	0.3474	0.2154	0.191135649	19.11%
C3-4	0.1385	0.2721	0.5083	0.3063	0.271795998	27.18%
Total				1.1268	1	100%

5. Consistency Ratio of Psychological Test Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C4-1			C4-2			C4-3		
C4-1	1	1	1	1/4	1/2	1	1	2	4
C4-2	1	2	4	1	1	1	1	3	5
C4-3	1/4	1/2	1	1/5	1/3	1	1	1	1

2	C4-1			C4-2			C4-3		
C4-1	1	1	1	1	2	4	1	2	4
C4-2	1/4	1/2	1	1	1	1	1	3	5
C4-3	1/4	1/2	1	1/5	1/3	1	1	1	1

3	C4-1			C4-2			C4-3		
C4-1	1	1	1	1/4	1/2	1	1	2	4
C4-2	1	2	4	1	1	1	1	3	5
C4-3	1/4	1/2	1	1/5	1/3	1	1	1	1

4	C4-1			C4-2			C4-3		
C4-1	1	1	1	1	2	4	1	2	4
C4-2	1/4	1/2	1	1	1	1	1	3	5
C4-3	1/4	1/2	1	1/5	1/3	1	1	1	1

5	C4-1			C4-2			C4-3		
C4-1	1	1	1	1	2	4	1	2	4
C4-2	1/4	1/2	1	1	1	1	1	3	5
C4-3	1/4	1/2	1	1/5	1/3	1	1	1	1

Aggregate Value Matrix of Criterion

	C4-1			C4-2			C4-3		
C4-1	1	1	1	2/3	1 2/5	2 4/5	1	2	4
C4-2	5/9	1 1/9	2 1/5	1	1	1	1	3	5
C4-3	1/4	1/2	1	1/5	1/3	1	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C4-1	0.9311	1.2287	1.6212
C4-2	0.8873	1.2697	1.6154
C4-3	0.5493	0.6988	1.0000
Total	2.3677	3.1972	4.2366
Reverse	0.4223	0.3128	0.2360
Increasing	0.2360	0.3128	0.4223

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	Wi			Mi	Ni	%
C4-1	0.2198	0.3843	0.6847	0.4296	0.384923	38.49%
C4-2	0.2094	0.3971	0.6823	0.4296	0.384931	38.49%
C4-3	0.1297	0.2186	0.4223	0.2569	0.230146	23.01%
Total				1.1161	1	100%

6. Consistency Ratio of Personality Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C5-1			C5-2			C5-3			C5-4			C5-5			C5-6			C5-7		
C5-1	1	1	1	1	3	5	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1/7	1/5	1/3
C5-2	1/5	1/3	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1
C5-3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1/5	1/3	1
C5-4	1	1	1	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1/5	1/3	1	1/5	1/3	1
C5-5	1	1	1	1	3	5	1	1	1	1	2	4	1	1	1	1/5	1/3	1	1/5	1/3	1
C5-6	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1	1	1	1
C5-7	3	5	7	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1	1	1	1

2	C5-1			C5-2			C5-3			C5-4			C5-5			C5-6			C5-7		
C5-1	1	1	1	1	3	5	1/5	1/3	1	1	1	1	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1
C5-2	1/5	1/3	1	1	1	1	1	3	5	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1
C5-3	1	3	5	1/5	1/3	1	1	1	1	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1
C5-4	1	1	1	1	3	5	1	3	5	1	1	1	1	1	1	1/5	1/3	1	1/5	1/3	1
C5-5	1	3	5	1	3	5	1	3	5	1	1	1	1	1	1	1/5	1/3	1	1/5	1/3	1
C5-6	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1	1	1	1
C5-7	1	3	5	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1	1	1	1

3	C5-1			C5-2			C5-3			C5-4			C5-5			C5-6			C5-7		
C5-1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C5-2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C5-3	1	1	1	1	1	1	1	1	1	1	3	5	1	1	1	1	1	1	1	1	1
C5-4	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1	1	1	1	1	1	1	1	1
C5-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C5-6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C5-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

4	C5-1			C5-2			C5-3			C5-4			C5-5			C5-6			C5-7		
C5-1	1	1	1	1/5	1/3	1	1	3	5	1	3	5	1/7	1/5	1/3	1/9	1/7	1/5	1/8	1/6	1/4
C5-2	1	3	5	1	1	1	2	4	6	1/7	1/5	1/3	1	1	1	1/7	1/5	1/3	1/8	1/6	1/4
C5-3	1/5	1/3	1	1/6	1/4	1/2	1	1	1	1	1	1	1/6	1/4	1/2	1/6	1/4	1/2	1/6	1/4	1/2
C5-4	1/5	1/3	1	1	3	5	1	1	1	1	1	1	1/6	1/4	1/2	1/7	1/5	1/3	1/7	1/5	1/3
C5-5	3	5	7	1	1	1	2	4	6	2	4	6	1	1	1	1/7	1/5	1/3	1/7	1/5	1/3
C5-6	5	7	9	4	6	8	2	4	6	3	5	7	3	5	7	1	1	1	5	7	9
C5-7	4	6	8	4	6	8	2	4	6	3	5	7	3	5	7	1/9	1/7	1/5	1	1	1

5	C5-1			C5-2			C5-3			C5-4			C5-5			C5-6			C5-7		
C5-1	1	1	1	1	2	4	1	1	1	1	1	1	1	1	1	1/7	1/5	1/3	1/7	1/5	1/3
C5-2	1/4	1/2	1	1	1	1	1	1	1	1	1	1	1	1	1	1/7	1/5	1/3	1/5	1/3	1
C5-3	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1	1	1	1/7	1/5	1/3	1/5	1/3	1
C5-4	1	1	1	1	1	1	1	2	4	1	1	1	1	1	1	1/6	1/4	1/2	1	1	1
C5-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1/4	1/2	1
C5-6	3	5	7	3	5	7	3	5	7	2	4	6	1	3	5	1	1	1	1	2	4
C5-7	1	3	5	1	3	5	1	3	5	1	1	1	1	2	4	1/5	1/3	1	1	1	1

Aggregate Value Matrix of Criterion

	C5-1			C5-2			C5-3			C5-4			C5-5			C5-6			C5-7		
C5-1	1	1	1	5/6	1 6/7	3 1/5	5/6	1 1/4	1 4/5	1	1 2/5	1 4/5	2/3	5/7	7/8	1/3	2/5	5/7	1/3	3/8	4/7
C5-2	1/2	1	1 4/5	1	1	1	1 1/5	2	2 4/5	2/3	5/7	7/8	2/3	3/4	1	1/3	2/5	3/4	1/3	3/7	6/7
C5-3	5/6	1 1/4	1 4/5	2/3	5/7	8/9	1	1	1	2/3	1 1/8	1 4/5	2/3	5/7	8/9	1/3	3/7	3/4	1/3	4/9	8/9
C5-4	5/6	7/8	1	1	1 4/5	2 3/5	5/6	1 1/2	2 2/5	1	1	1	2/3	3/4	8/9	1/3	3/7	3/4	1/2	4/7	7/8
C5-5	1 2/5	2 1/5	3	1	1 4/5	2 3/5	1 1/5	2	2 4/5	1 1/5	1 4/5	2 3/5	1	1	1	1/3	4/9	7/8	1/3	1/2	7/8
C5-6	2 1/5	3 4/5	5 2/5	2	3 3/5	5 1/5	1 3/5	3 1/5	4 4/5	1 3/5	3 1/5	4 4/5	1 2/5	3	4 3/5	1	1	1	1 4/5	2 2/5	3 1/5
C5-7	2	3 3/5	5 1/5	1 3/5	3 1/5	4 4/5	1 1/5	2 4/5	4 2/5	1 2/5	2 3/5	3 4/5	1 2/5	2 4/5	4 2/5	2/3	2/3	5/6	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C5-1	0.6523	0.8633	1.2057
C5-2	0.6159	0.7899	1.1538
C5-3	0.6096	0.7555	1.0885
C5-4	0.7018	0.8824	1.2070
C5-5	0.8213	1.1682	1.7094
C5-6	1.6128	2.6860	3.7017
C5-7	1.2579	2.0707	2.8540
Total	6.2717	9.2159	12.9202
Reverse	0.1594	0.1085	0.0774
Increasing	0.0774	0.1085	0.1594

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	wi			Mi	Ni	%
C5-1	0.0505	0.0937	0.1922	0.1121	0.094882	9.49%
C5-2	0.0477	0.0857	0.1840	0.1058	0.089509	8.95%
C5-3	0.0472	0.0820	0.1736	0.1009	0.085382	8.54%
C5-4	0.0543	0.0957	0.1924	0.1142	0.096605	9.66%
C5-5	0.0636	0.1268	0.2726	0.1543	0.130555	13.06%
C5-6	0.1248	0.2915	0.5902	0.3355	0.283881	28.39%
C5-7	0.0974	0.2247	0.4551	0.2590	0.219185	21.92%
Total				1.1818	1	100%

7. Consistency Ratio of Technical Skill Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C6-1			C6-2			C6-3			C6-4			C6-5		
C6-1	1	1	1	1	3	5	1	3	5	1/7	1/5	1/3	1	1	1
C6-2	1/5	1/3	1	1	1	1	2	4	6	1/7	1/5	1/3	1/5	1/3	1
C6-3	1/5	1/3	1	1/6	1/4	1/2	1	1	1	1	3	5	1/4	1/2	1
C6-4	3	5	7	3	5	7	1/5	1/3	1	1	1	1	1/5	1/3	1
C6-5	1	1	1	1	3	5	1	2	4	1	3	5	1	1	1

2	C6-1			C6-2			C6-3			C6-4			C6-5		
C6-1	1	1	1	1	1	1	1	1	1	1/5	1/3	1	1/5	1/3	1
C6-2	1	1	1	1	1	1	1	3	5	1	3	5	1/5	1/3	1
C6-3	1	1	1	1/5	1/3	1	1	1	1	1/5	1/3	1	1/5	1/3	1
C6-4	1	3	5	1/5	1/3	1	1	3	5	1	1	1	1/5	1/3	1
C6-5	1	3	5	1	3	5	1	3	5	1	3	5	1	1	1

3	C6-1			C6-2			C6-3			C6-4			C6-5		
C6-1	1	1	1	1	1	1	1	1	1	1	1	1	2	4	6
C6-2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5
C6-3	1	1	1	1	1	1	1	1	1	1/5	1/3	1	4	6	8
C6-4	1	1	1	1	1	1	1	3	5	1	1	1	1	1	1
C6-5	1/6	1/4	1/2	1/5	1/3	1	1/8	1/6	1/4	1	1	1	1	1	1

4	C6-1			C6-2			C6-3			C6-4			C6-5		
C6-1	1	1	1	1	1	1	1	3	5	1	3	5	1	3	5
C6-2	1	1	1	1	1	1	2	4	6	1	3	5	1	1	1
C6-3	1/5	1/3	1	1/6	1/4	1/2	1	1	1	1	3	5	1	3	5
C6-4	1/5	1/3	1	1/5	1/3	1	1/5	1/3	1	1	1	1	1/6	1/4	1/2
C6-5	1/5	1/3	1	1	1	1	1/5	1/3	1	2	4	6	1	1	1

5	C6-1			C6-2			C6-3			C6-4			C6-5		
C6-1	1	1	1	1	2	4	1	2	4	1	2	4	1	1	1
C6-2	1/4	1/2	1	1	1	1	1	1	1	1	2	4	1/4	1/2	1
C6-3	1/4	1/2	1	1	1	1	1	1	1	1	2	4	1/4	1/2	1
C6-4	1/4	1/2	1	1/4	1/2	1	1/4	1/2	1	1	1	1	1/4	1/2	1
C6-5	1	1	1	1	2	4	1	2	4	1	2	4	1	1	1

Aggregate Value Matrix of Criterion

	C6-1			C6-2			C6-3			C6-4			C6-5		
C6-1	1	1	1	1	1 3/5	2 2/5	1	2	3 1/5	2/3	1 1/3	2 1/4	1	1 6/7	2 4/5
C6-2	2/3	3/4	1	1	1	1	1 2/5	2 3/5	3 4/5	5/6	1 5/6	3	1/2	1	1 4/5
C6-3	1/2	5/8	1	1/2	4/7	4/5	1	1	1	2/3	1 3/4	3 1/5	1 1/7	2	3 1/5
C6-4	1	2	3	1	1 3/7	2 1/5	1/2	1 3/7	2 3/5	1	1	1	1/3	1/2	8/9
C6-5	2/3	1 1/9	1 2/3	5/6	1 6/7	3 1/5	2/3	1 1/2	2 6/7	1 1/5	2 3/5	4 1/5	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C6-1	0.9299	1.5083	2.1756
C6-2	0.8424	1.3054	1.8380
C6-3	0.7306	1.0515	1.5229
C6-4	0.7213	1.1432	1.7288
C6-5	0.8529	1.5206	2.3054
Total	4.0771	6.5290	9.5707
Reverse	0.2453	0.1532	0.1045
Increasing	0.1045	0.1532	0.2453

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	wi			Mi	Ni	%
C6-1	0.0972	0.2310	0.5336	0.2873	0.228384	22.84%
C6-2	0.0880	0.1999	0.4508	0.2463	0.19578	19.58%
C6-3	0.0763	0.1611	0.3735	0.2036	0.161902	16.19%
C6-4	0.0754	0.1751	0.4240	0.2248	0.178749	17.87%
C6-5	0.0891	0.2329	0.5654	0.2958	0.235186	23.52%
Total				1.2578	1	100%

8. Consistency Ratio of Soft Skill Sub-Criterion

Pairwise Comparison Matrix in Triangular Fuzzy Number

1	C7-1			C7-2			C7-3			C7-4			C7-5			C7-6		
C7-1	1	1	1	1	3	5	1	1	1	1	1	1	1	1	1	1/9	1/7	1/5
C7-2	1	3	5	1	1	1	1	3	5	1	3	5	1	2	4	1/8	1/6	1/4
C7-3	1	1	1	1/5	1/3	1	1	1	1	1	2	4	1	1	1	1/9	1/8	1/6
C7-4	1	1	1	1/5	1/3	1	1/4	1/2	1	1	1	1	1	1	1	1/9	1/7	1/5
C7-5	1	1	1	1/4	1/2	1	1	1	1	1	1	1	1	1	1	1/9	1/7	1/5
C7-6	5	7	9	4	6	8	6	8	9	5	7	9	5	7	9	1	1	1

2	C7-1			C7-2			C7-3			C7-4			C7-5			C7-6		
C7-1	1	1	1	1/5	1/3	1	1	1	1	1	1	1	1	1	1	1	3	5
C7-2	1	3	5	1	1	1	1/5	1/3	1	1	1	1	1	1	1	4	6	8
C7-3	1	1	1	1	3	5	1	1	1	1	1	1	1	1	1	4	6	8
C7-4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
C7-5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	5	7
C7-6	1/5	1/3	1	1/8	1/6	1/4	1/8	1/6	1/4	1	1	1	1/7	1/5	1/3	1	1	1

3	C7-1			C7-2			C7-3			C7-4			C7-5			C7-6		
C7-1	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1	1	1	1
C7-2	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1	1	1	1
C7-3	1	1	1	1	1	1	1	1	1	1/4	1/2	1	1	1	1	1	1	1
C7-4	1	2	4	1	2	4	1	2	4	1	1	1	1/4	1/2	1	1	1	1
C7-5	1	1	1	1	1	1	1	1	1	1	2	4	1	1	1	2	4	6
C7-6	1	1	1	1	1	1	1	1	1	1	1	1	1/6	1/4	1/2	1	1	1

4	C7-1			C7-2			C7-3			C7-4			C7-5			C7-6		
C7-1	1	1	1	1	1	1	4	6	8	4	6	8	1	1	1	1	3	5
C7-2	1	1	1	1	1	1	1	1	1	1	3	5	1/5	1/3	1	2	4	6
C7-3	1/8	1/6	1/4	1	1	1	1	1	1	1	1	1	1	3	5	3	5	7
C7-4	1/8	1/6	1/4	1/5	1/3	1	1	1	1	1	1	1	3	5	7	1	3	5
C7-5	1	1	1	1	3	5	1/5	1/3	1	1/7	1/5	1/3	1	1	1	1	1	1
C7-6	1/5	1/3	1	1/6	1/4	1/2	1/7	1/5	1/3	1/5	1/3	1	1	1	1	1	1	1

5	C7-1			C7-2			C7-3			C7-4			C7-5			C7-6		
C7-1	1	1	1	1	1	1	1	2	4	1	2	4	1	1	1	1	1	1
C7-2	1	1	1	1	1	1	1	2	4	1	2	4	1	1	1	1	1	1
C7-3	1/4	1/2	1	1/4	1/2	1	1	1	1	1	1	1	1/4	1/2	1	1/4	1/2	1
C7-4	1/4	1/2	1	1/4	1/2	1	1	1	1	1	1	1	1/4	1/2	1	3	5	7
C7-5	1	1	1	1	1	1	1	2	4	1	2	4	1	1	1	4	6	8
C7-6	1	1	1	1	1	1	1	2	4	1/7	1/5	1/3	1/8	1/6	1/4	1	1	1

Aggregate Value Matrix of Criterion

	C7-1			C7-2			C7-3			C7-4			C7-5			C7-6		
C7-1	1	1	1	5/6	1 1/4	1 4/5	1 3/5	2 1/5	3	1 4/9	2 1/9	3	1	1	1	5/6	1 5/8	2 4/9
C7-2	1	1 4/5	2 3/5	1	1	1	5/6	1 1/2	2 2/5	6/7	1 8/9	3 1/5	5/6	1	1 3/5	1 5/8	2 3/7	3 1/4
C7-3	2/3	3/4	6/7	2/3	1 1/6	1 4/5	1	1	1	6/7	1 1/9	1 3/5	6/7	1 1/3	1 4/5	1 2/3	2 1/2	3 3/7
C7-4	2/3	1	1 4/9	1/2	5/6	1 3/5	6/7	1 1/9	1 3/5	1	1	1	1 1/9	1 3/5	2 1/5	1 2/9	2	2 5/6
C7-5	1	1	1	6/7	1 1/3	1 4/5	5/6	1	1 3/5	5/6	1 1/4	2	1	1	1	2	3 2/9	4 4/9
C7-6	1 1/2	2	2 3/5	1 1/4	1 2/3	2 1/7	1 2/3	2 2/7	3	1 1/2	2	2 1/2	1 2/7	1 5/7	2 2/9	1	1	1

Geometric Mean of Fuzzy Comparison Value

Criteria	ri		
C7-1	1.0989	1.5697	2.0863
C7-2	0.9949	1.6708	2.5309
C7-3	0.8914	1.2531	1.7217
C7-4	0.8362	1.2266	1.8753
C7-5	1.0365	1.4089	1.9249
C7-6	1.4223	1.8930	2.4548
Total	6.2801	9.0221	12.5939
Reverse	0.1592	0.1108	0.0794
Increasing	0.0794	0.1108	0.1592

Relative Fuzzy Weight (Wi), Average Value of Fuzzy Weight (Mi), and Normalized Value (Ni) of Criterion

Criteria	wi			Mi	Ni	%
C7-1	0.0873	0.1740	0.3322	0.1978	0.169363	16.94%
C7-2	0.0790	0.1852	0.4030	0.2224	0.190403	19.04%
C7-3	0.0708	0.1389	0.2742	0.1613	0.138075	13.81%
C7-4	0.0664	0.1360	0.2986	0.1670	0.142968	14.30%
C7-5	0.0823	0.1562	0.3065	0.1817	0.155527	15.55%
C7-6	0.1129	0.2098	0.3909	0.2379	0.203664	20.37%
Total				1.1680	1	100%

Appendix 7 – Weight of Criterion and Sub Criterion Determination

Criterion	Code	Weight	Sub-Criterion	Code	Weight
General	C1	5.653%	Age	C1-1	2.244%
			Health Condition	C1-2	1.619%
			Gender	C1-3	1.789%
Educational Background	C2	12.496%	Degree	C2-1	4.295%
			GPA	C2-2	3.984%
			Certification	C2-3	4.218%
Work Experience	C3	13.305%	Knowledge	C3-1	3.654%
			Projects Related	C3-2	3.492%
			Current Salary	C3-3	2.543%
			Current Position	C3-4	3.616%
Psychological Test	C4	9.847%	Emotional Quitition	C4-1	3.790%
			Spiritual Quitition	C4-2	3.790%
			Intellectual Quitition	C4-3	2.266%
Personality	C5	19.358%	Attitude	C5-1	1.837%
			Dicipline	C5-2	1.733%
			Appearance	C5-3	1.653%
			Independency	C5-4	1.870%
			Initiative	C5-5	2.527%
			Persistence	C5-6	5.495%
			Responsibility	C5-7	4.243%
Technical Skill	C6	17.493%	Project Management	C6-1	3.995%
			Planning Ability	C6-2	3.425%
			Computer Competency	C6-3	2.832%
			Language	C6-4	3.127%
			Resoruceful	C6-5	4.114%
Soft Skill	C7	21.848%	Communication	C7-1	3.700%
			Teamwork	C7-2	4.160%
			Judgement	C7-3	3.017%
			Leadership	C7-4	3.123%
			Decisive	C7-5	3.398%
			Analytical & Logical	C7-6	4.450%
Total		100%	Total		100%

Appendix 8 – CV Selection Decision Making

Score of CV Selection

CRITERION	Score of Candidate in CV Selection									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4
C2-1	7	6	6	6	9	8	8	7	7	6
C2-2	6	7	6	6	8	8	9	9	9	8
C2-3	6	8	7	6	9	8	8	7	9	9
C3-4	7	7	7	6	7	8	7	5	7	7
C3-2	8	6	8	8	8	9	8	9	8	8
C1-1	6	7	8	9	8	7	7	8	8	8
C1-3	8	7	7	8	7	8	7	7	7	7

Candidates Weight on CV Selection Determination

C2-1	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000	1.00897	0.090909
A2	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857	0.864831	0.077922
A3	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857	0.864831	0.077922
A4	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857	0.864831	0.077922
A5	1.286	1.500	1.500	1.500	1.000	1.125	1.125	1.286	1.286	1.500	1.286	1.297247	0.116883
A6	1.143	1.333	1.333	1.333	0.889	1.000	1.000	1.143	1.143	1.333	1.143	1.153108	0.103896
B1	1.143	1.333	1.333	1.333	0.889	1.000	1.000	1.143	1.143	1.333	1.143	1.153108	0.103896
B2	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000	1.00897	0.090909
B3	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000	1.00897	0.090909
B4	0.857	1.000	1.000	1.000	0.667	0.750	0.750	0.857	0.857	1.000	0.857	0.864831	0.077922
MIN	1.000	1.167	1.167	1.167	0.778	0.875	0.875	1.000	1.000	1.167	1.000	1.00897	0.090909
											Total	11.09867	1

C2-2	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	0.857	1.000	1.000	0.750	0.750	0.667	0.667	0.667	0.750	0.857	0.804876	0.072374
A2	1.167	1.000	1.167	1.167	0.875	0.875	0.778	0.778	0.778	0.875	1.000	0.939022	0.084436
A3	1.000	0.857	1.000	1.000	0.750	0.750	0.667	0.667	0.667	0.750	0.857	0.804876	0.072374
A4	1.000	0.857	1.000	1.000	0.750	0.750	0.667	0.667	0.667	0.750	0.857	0.804876	0.072374
A5	1.333	1.143	1.333	1.333	1.000	1.000	0.889	0.889	0.889	1.000	1.143	1.073167	0.096499
A6	1.333	1.143	1.333	1.333	1.000	1.000	0.889	0.889	0.889	1.000	1.143	1.073167	0.096499
B1	1.500	1.286	1.500	1.500	1.125	1.125	1.000	1.000	1.000	1.125	1.286	1.207313	0.108561
B2	1.500	1.286	1.500	1.500	1.125	1.125	1.000	1.000	1.000	1.125	1.286	1.207313	0.108561
B3	1.500	1.286	1.500	1.500	1.125	1.125	1.000	1.000	1.000	1.125	1.286	1.207313	0.108561
B4	1.333	1.143	1.333	1.333	1.000	1.000	0.889	0.889	0.889	1.000	1.143	1.073167	0.096499
MIN	1.000	1.000	1.167	1.167	0.875	0.875	0.778	0.778	0.778	0.875	1.000	0.925954	0.083261
											Total	11.12105	1

C2-3	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	0.750	0.857	1.000	0.667	0.750	0.750	0.857	0.667	0.667	0.857	0.793675	0.071429
A2	1.333	1.000	1.143	1.333	0.889	1.000	1.000	1.143	0.889	0.889	1.143	1.058233	0.095238
A3	1.167	0.875	1.000	1.167	0.778	0.875	0.875	1.000	0.778	0.778	1.000	0.925954	0.083333
A4	1.000	0.750	0.857	1.000	0.667	0.750	0.750	0.857	0.667	0.667	0.857	0.793675	0.071429
A5	1.500	1.125	1.286	1.500	1.000	1.125	1.125	1.286	1.000	1.000	1.286	1.190512	0.107143
A6	1.333	1.000	1.143	1.333	0.889	1.000	1.000	1.143	0.889	0.889	1.143	1.058233	0.095238
B1	1.333	1.000	1.143	1.333	0.889	1.000	1.000	1.143	0.889	0.889	1.143	1.058233	0.095238
B2	1.167	0.875	1.000	1.167	0.778	0.875	0.875	1.000	0.778	0.778	1.000	0.925954	0.083333
B3	1.500	1.125	1.286	1.500	1.000	1.125	1.125	1.286	1.000	1.000	1.286	1.190512	0.107143

B4	1.500	1.125	1.286	1.500	1.000	1.125	1.125	1.286	1.000	1.000	1.286	1.190512	0.107143
MIN	1.167	0.875	1.000	1.167	0.778	0.875	0.875	1.000	0.778	0.778	1.000	0.925954	0.083333
											Total	11.11145	1

C3-4	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
A2	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
A3	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
A4	0.857	0.857	0.857	1.000	0.857	0.750	0.857	1.200	0.857	0.857	0.857	0.885425	0.08
A5	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
A6	1.143	1.143	1.143	1.333	1.143	1.000	1.143	1.600	1.143	1.143	1.143	1.180566	0.106667
B1	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
B2	0.714	0.714	0.714	0.833	0.714	0.625	0.714	1.000	0.714	0.714	0.714	0.737854	0.066667
B3	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
B4	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
MIN	1.000	1.000	1.000	1.167	1.000	0.875	1.000	1.400	1.000	1.000	1.000	1.032996	0.093333
											Total	11.06781	1

C3-2	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
A2	0.750	1.000	0.750	0.750	0.750	0.667	0.750	0.667	0.750	0.750	0.857	0.762765	0.068966
A3	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
A4	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
A5	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
A6	1.125	1.500	1.125	1.125	1.125	1.000	1.125	1.000	1.125	1.125	1.286	1.144148	0.103448

B1	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
B2	1.125	1.500	1.125	1.125	1.125	1.000	1.125	1.000	1.125	1.125	1.286	1.144148	0.103448
B3	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
B4	1.000	1.333	1.000	1.000	1.000	0.889	1.000	0.889	1.000	1.000	1.143	1.01702	0.091954
MIN	0.875	1.167	0.875	0.875	0.875	0.778	0.875	0.778	0.875	0.875	1.000	0.889893	0.08046
											Total	11.0601	1

C1-1	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	0.857	0.750	0.667	0.750	0.857	0.857	0.750	0.750	0.750	0.857	0.799571	0.072289
A2	1.167	1.000	0.875	0.778	0.875	1.000	1.000	0.875	0.875	0.875	1.000	0.932833	0.084337
A3	1.333	1.143	1.000	0.889	1.000	1.143	1.143	1.000	1.000	1.000	1.143	1.066095	0.096386
A4	1.500	1.286	1.125	1.000	1.125	1.286	1.286	1.125	1.125	1.125	1.286	1.199357	0.108434
A5	1.333	1.143	1.000	0.889	1.000	1.143	1.143	1.000	1.000	1.000	1.143	1.066095	0.096386
A6	1.167	1.000	0.875	0.778	0.875	1.000	1.000	0.875	0.875	0.875	1.000	0.932833	0.084337
B1	1.167	1.000	0.875	0.778	0.875	1.000	1.000	0.875	0.875	0.875	1.000	0.932833	0.084337
B2	1.333	1.143	1.000	0.889	1.000	1.143	1.143	1.000	1.000	1.000	1.143	1.066095	0.096386
B3	1.333	1.143	1.000	0.889	1.000	1.143	1.143	1.000	1.000	1.000	1.143	1.066095	0.096386
B4	1.333	1.143	1.000	0.889	1.000	1.143	1.143	1.000	1.000	1.000	1.143	1.066095	0.096386
MIN	1.167	1.000	0.875	0.778	0.875	1.000	1.000	0.875	0.875	0.875	1.000	0.932833	0.084337
											Total	11.06073	1

C1-3	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A1	1.000	1.143	1.143	1.000	1.143	1.000	1.143	1.143	1.143	1.143	1.143	1.101986	0.1
A2	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
A3	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875

A4	1.000	1.143	1.143	1.000	1.143	1.000	1.143	1.143	1.143	1.143	1.143	1.101986	0.1
A5	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
A6	1.000	1.143	1.143	1.000	1.143	1.000	1.143	1.143	1.143	1.143	1.143	1.101986	0.1
B1	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
B2	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
B3	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
B4	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
MIN	0.875	1.000	1.000	0.875	1.000	0.875	1.000	1.000	1.000	1.000	1.000	0.964237	0.0875
											Total	11.01986	1

Weight of Candidates in CV Selection

	WEIGHT OF CANDIDATES IN CV SELECTION						
CANDIDATE	C2-1	C2-2	C2-3	C3-4	C3-2	C1-1	C1-3
A1	0.090909	0.072374	0.071429	0.093333	0.091954	0.072289	0.1
A2	0.077922	0.084436	0.095238	0.093333	0.068966	0.084337	0.0875
A3	0.077922	0.072374	0.083333	0.093333	0.091954	0.096386	0.0875
A4	0.077922	0.072374	0.071429	0.08	0.091954	0.108434	0.1
A5	0.116883	0.096499	0.107143	0.093333	0.091954	0.096386	0.0875
A6	0.103896	0.096499	0.095238	0.106667	0.103448	0.084337	0.1
B1	0.103896	0.108561	0.095238	0.093333	0.091954	0.084337	0.0875
B2	0.090909	0.108561	0.083333	0.066667	0.103448	0.096386	0.0875
B3	0.090909	0.108561	0.107143	0.093333	0.091954	0.096386	0.0875
B4	0.077922	0.096499	0.107143	0.093333	0.091954	0.096386	0.0875
MIN	0.090909	0.083261	0.083333	0.093333	0.08046	0.084337	0.0875

Final Score of Candidates in CV Selection

	FINAL SCORE OF CANDIDATES								
CANDIDATE	C2-1	C2-2	C2-3	C3-4	C3-2	C1-1	C1-3	Total	Rank
A1	0.00390	0.00288	0.00301	0.00338	0.00321	0.00162	0.00179	0.01980	10
A2	0.00335	0.00336	0.00402	0.00338	0.00241	0.00189	0.00157	0.01997	9
A3	0.00335	0.00288	0.00351	0.00338	0.00321	0.00216	0.00157	0.02006	8
A4	0.00335	0.00288	0.00301	0.00289	0.00321	0.00243	0.00179	0.01957	11
A5	0.00502	0.00384	0.00452	0.00338	0.00321	0.00216	0.00157	0.02370	1
A6	0.00446	0.00384	0.00402	0.00386	0.00361	0.00189	0.00179	0.02348	2
B1	0.00446	0.00433	0.00402	0.00338	0.00321	0.00189	0.00157	0.02285	4
B2	0.00390	0.00433	0.00351	0.00241	0.00361	0.00216	0.00157	0.02150	6
B3	0.00390	0.00433	0.00452	0.00338	0.00321	0.00216	0.00157	0.02306	3
B4	0.00335	0.00384	0.00452	0.00338	0.00321	0.00216	0.00157	0.02202	5
MIN	0.00390	0.00332	0.00351	0.00338	0.00281	0.00189	0.00157	0.02038	7

Appendix 9 – Psychological Test Decision Making

Score of Psychological Test

CRITERION	Score of Candidate in Psychological Test									
	1	2	3	4	A5	A6	B1	B2	B3	B4
C4-1					9	9	8	7	8	8
C4-2					7	8	7	9	7	8
C4-3					8	8	7	7	9	9
Total					24	25	22	23	24	25

Candidates Weight on Psychological Test Determination

C4-1	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A5	1.000	1.000	1.125	1.286	1.125	1.125	1.286	1.130073	0.160714
A6	1.000	1.000	1.125	1.286	1.125	1.125	1.286	1.130073	0.160714
B1	0.889	0.889	1.000	1.143	1.000	1.000	1.143	1.00451	0.142857
B2	0.778	0.778	0.875	1.000	0.875	0.875	1.000	0.878946	0.125
B3	0.889	0.889	1.000	1.143	1.000	1.000	1.143	1.00451	0.142857
B4	0.889	0.889	1.000	1.143	1.000	1.000	1.143	1.00451	0.142857
MIN	0.778	0.778	0.875	1.000	0.875	0.875	1.000	0.878946	0.125
							Total	7.031568	1

C4-2	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A5	1.000	0.875	1.000	0.778	1.000	0.875	1.000	0.928622	0.132075
A6	1.143	1.000	1.143	0.889	1.143	1.000	1.143	1.061282	0.150943
B1	1.000	0.875	1.000	0.778	1.000	0.875	1.000	0.928622	0.132075
B2	1.286	1.125	1.286	1.000	1.286	1.125	1.286	1.193942	0.169811

B3	1.000	0.875	1.000	0.778	1.000	0.875	1.000	0.928622	0.132075
B4	1.143	1.000	1.143	0.889	1.143	1.000	1.143	1.061282	0.150943
MIN	1.000	0.875	1.000	0.778	1.000	0.875	1.000	0.928622	0.132075
							Total	7.030993	1

C4-3	A5	A6	B1	B2	B3	B4	Minimal	GM	WEIGHT
A5	1.000	1.000	1.143	1.143	0.889	0.889	1.143	1.023856	0.145455
A6	1.000	1.000	1.143	1.143	0.889	0.889	1.143	1.023856	0.145455
B1	0.875	0.875	1.000	1.000	0.778	0.778	1.000	0.895874	0.127273
B2	0.875	0.875	1.000	1.000	0.778	0.778	1.000	0.895874	0.127273
B3	1.125	1.125	1.286	1.286	1.000	1.000	1.286	1.151837	0.163636
B4	1.125	1.125	1.286	1.286	1.000	1.000	1.286	1.151837	0.163636
MIN	0.875	0.875	1.000	1.000	0.778	0.778	1.000	0.895874	0.127273
							Total	7.039007	1

Weight of Candidates in Psychological test

WEIGHT OF CANDIDATES			
CANDIDATE	C4-1	C4-2	C4-3
A5	0.160714	0.132075	0.145455
A6	0.160714	0.150943	0.145455
B1	0.142857	0.132075	0.127273
B2	0.125	0.169811	0.127273
B3	0.142857	0.132075	0.163636
B4	0.142857	0.150943	0.163636
MIN	0.125	0.132075	0.127273

Final Score of Candidates in Psychological test

WEIGHT OF CANDIDATES					
CANDIDATE	C4-1	C4-2	C4-3	Total	Priority
A5	0.006091	0.005006	0.003296	0.014394	3
A6	0.006091	0.005721	0.003296	0.015109	1
B1	0.005415	0.005006	0.002884	0.013305	6
B2	0.004738	0.006436	0.002884	0.014058	5
B3	0.005415	0.005006	0.003708	0.014129	4
B4	0.005415	0.005721	0.003708	0.014844	2
MIN	0.004738	0.005006	0.002884	0.012628	7

Appendix 10 –Interview Session Decision Making

Score of Interview HR

CRITERION	Score of Candidate in Interview HR									
	1	2	3	4	A5	A6	B1	B2	B3	B4
C5-1					8	8	9	9	8	8
C5-3					7	8	7	9	6	8
C5-5					8	8	7	7	9	9
C6-3					8	7	8	7	9	9
C6-4					9	7	8	8	7	8
C7-1					9	8	9	8	7	8
C7-3					8	8	8	7	7	8
C3-3					7	7	8	7	8	8

Score of Interview Panel

CRITERION	Score of Candidate in Interview Panel									
	1	2	3	4	A5	A6	B1	B2	B3	B4
C3-1					8	8	8	7	8	8
C5-1					7	8	8	8	7	8
C5-3					6	8	7	6	8	6
C5-5					8	7	8	7	9	9
C6-2					8	7	8	6	7	8
C6-4					8	8	8	6	7	8
C6-5					8	8	8	7	7	8
C7-1					7	7	7	8	8	8
C7-3					8	6	8	6	6	6
C7-5					7	7	8	8	8	8
C7-6					8	8	7	6	8	8

Pairwise Comparison Matrix of Criterion on Interview Session which Assessed by 2 parties (HR and Panel) for Position A

C5-1 HR	A5	A6	Minimal
A5	1	1	1.142857
A6	1	1	1.142857
Minimal	0.875	0.875	1

C5-1 PNL	A5	A6	Minimal
A5	1	0.875	1
A6	1.142857	1	1.142857
Minimal	1	0.875	1

C5-3 HR	A5	A6	Minimal
A5	1	0.875	1
A6	1.142857	1	1.142857
Minimal	1	0.875	1

C5-3 PNL	A5	A6	Minimal
A5	1	0.75	0.857143
A6	1.333333	1	1.142857
Minimal	1.166667	0.875	1

C5-5 HR	A5	A6	Minimal
A5	1	1	1.142857
A6	1	1	1.142857
Minimal	0.875	0.875	1

C5-5 PNL	A5	A6	Minimal
A5	1	1.1428571	1.142857
A6	0.875	1	1
Minimal	0.875	1	1

C7-1 HR	A5	A6	Minimal
A5	1	1.125	1.285714
A6	0.888889	1	1.142857
Minimal	0.777778	0.875	1

C7-1 PNL	A5	A6	Minimal
A5	1	1	1
A6	1	1	1
Minimal	1	1	1

C7-3 HR	A5	A6	Minimal
A5	1	1	1.142857
A6	1	1	1.142857
Minimal	0.875	0.875	1

C7-3 PNL	A5	A6	Minimal
A5	1	1.3333333	1.142857
A6	0.75	1	0.857143
Minimal	0.875	1.1666667	1

C6-4 HR	A5	A6	Minimal
A5	1	1.285714	1.285714
A6	0.777778	1	1
Minimal	0.777778	1	1

C6-4 PNL	A5	A6	Minimal
A5	1	1	1.142857
A6	1	1	1.142857
Minimal	0.875	0.875	1

Candidates Weight on Interview Session Determination for position A

C5-1	A5	A6	Minimal	GM	WEIGHT
A5	1	0.935414	1.069045	1	0.332839
A6	1.069045	1	1.142857	1.069045	0.355819
Minimal	0.935414	0.875	1	0.935414	0.311342
			Total	3.004459	1

C7-6	A5	A6	Minimal	GM	WEIGHT
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C5-3	A5	A6	Minimal	GM	WEIGHT
A5	1	0.810093	0.92582	0.90856	0.3017
A6	1.234427	1	1.142857	1.121551	0.372427
Minimal	1.080123	0.875	1	0.981357	0.325873
			Total	3.011469	1

C6-2	A5	A6	Minimal	GM	WEIGHT
A5	1	1.142857	1.142857	1.093104	0.363636
A6	0.875	1	1	0.956466	0.318182
Minimal	0.875	1	1	0.956466	0.318182
			Total	3.006035	1

C5-5	A5	A6	Minimal	GM	WEIGHT
A5	1	1.069045	1.142857	1.069045	0.355819
A6	0.935414	1	1.069045	1	0.332839
Minimal	0.875	0.935414	1	0.935414	0.311342
			Total	3.004459	1

C6-3	A5	A6	Minimal	GM	WEIGHT
A5	1	1.142857	1.142857	1.093104	0.363636
A6	0.875	1	1	0.956466	0.318182
Minimal	0.875	1	1	0.956466	0.318182
			Total	3.006035	1

C7-1	A5	A6	Minimal	GM	WEIGHT
A5	1	1.06066	1.133893	1.063448	0.354017
A6	0.942809	1	1.069045	1.002628	0.33377
Minimal	0.881917	0.935414	1	0.937873	0.312213
			Total	3.003949	1

C6-5	A5	A6	Minimal	GM	WEIGHT
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C7-3	A5	A6	Minimal	GM	WEIGHT
A5	1	1.154701	1.142857	1.096866	0.364827
A6	0.866025	1	0.989743	0.949914	0.315949
Minimal	0.875	1.010363	1	0.959758	0.319224
			Total	3.006539	1

C3-1	A5	A6	Minimal	GM	WEIGHT
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C6-4	A5	A6	Minimal	GM	WEIGHT
A5	1	1.133893	1.212183	1.111852	0.36943
A6	0.881917	1	1.069045	0.980561	0.325806
Minimal	0.824958	0.935414	1	0.917231	0.304764
			Total	3.009643	1

C3-3	A5	A6	Minimal	GM	WEIGHT
A5	1	1	1	1	0.333333
A6	1	1	1	1	0.333333
Minimal	1	1	1	1	0.333333
			Total	3	1

C7-5	A5	A6	Minimal	GM	WEIGHT
A5	1	1	1	1	0.333333
A6	1	1	1	1	0.333333
Minimal	1	1	1	1	0.333333
			Total	3	1

Weight of Candidates in Interview Session for Position A

	WEIGHT OF CANDIDATES												
CANDIDATE	C5-1	C5-3	C5-5	C7-1	C7-3	C6-4	C7-5	C7-6	C6-2	C6-3	C6-5	C3-1	C3-3
A5	0.332839	0.3017	0.355819	0.35401662	0.364827	0.36943	0.333333	0.347826	0.3636364	0.363636	0.3478261	0.347826	0.333333
A6	0.355819	0.372427	0.332839	0.33377007	0.315949	0.325806	0.333333	0.347826	0.3181818	0.318182	0.3478261	0.347826	0.333333
Minimal	0.311342	0.325873	0.311342	0.31221331	0.319224	0.304764	0.333333	0.304348	0.3181818	0.318182	0.3043478	0.304348	0.333333

Final Score of Candidates in Interview Session for Position A

	FINAL SCORE OF CANDIDATES														
CANDIDATE	C5-1	C5-3	C5-5	C7-1	C7-3	C6-4	C7-5	C7-6	C6-2	C6-3	C6-5	C3-1	C3-3	TOTAL	Rank
A5	0.0061	0.0050	0.0090	0.0131	0.0110	0.0116	0.0113	0.0155	0.0125	0.0103	0.0143	0.0127	0.008477	0.1408	1
A6	0.0065	0.0062	0.0084	0.0124	0.0095	0.0102	0.0113	0.0155	0.0109	0.0090	0.0143	0.0127	0.008477	0.1354	2
Minimal	0.0057	0.0054	0.0079	0.0116	0.0096	0.0095	0.0113	0.0135	0.0109	0.0090	0.0125	0.0111	0.008477	0.1266	3

Pairwise Comparison Matrix of Criterion on Interview Session which Assessed by 2 parties (HR and Panel) for Position B

C5-1 HR	B1	B2	B3	B4	Minimal
B1	1	1	1.125	1.125	1.285714
B2	1	1	1.125	1.125	1.285714
B3	0.888889	0.888889	1	1	1.142857
B4	0.888889	0.888889	1	1	1.142857
Minimal	0.777778	0.777778	0.875	0.875	1

C5-1 PNL	B1	B2	B3	B4	Minimal
B1	1	1	1.142857	1	1.142857
B2	1	1	1.142857	1	1.142857
B3	0.875	0.875	1	0.875	1
B4	1	1	1.142857	1	1.142857
Minimal	0.875	0.875	1	0.875	1

C5-3 HR	B1	B2	B3	B4	Minimal
B1	1	0.777778	1.166667	0.875	1
B2	1.285714	1	1.5	1.125	1.285714
B3	0.857143	0.666667	1	0.75	0.857143
B4	1.142857	0.888889	1.333333	1	1.142857
Minimal	1	0.777778	1.166667	0.875	1

C5-3 PNL	B1	B2	B3	B4	Minimal
B1	1	1.166667	0.875	1.166667	1
B2	0.85714	1	0.75	1	0.857143
B3	1.14286	1.333333	1	1.333333	1.142857
B4	0.85714	1	0.75	1	0.857143
Minimal	1	1.166667	0.875	1.166667	1

C5-5 HR	B1	B2	B3	B4	Minimal
B1	1	1	0.777778	0.777778	1
B2	1	1	0.777778	0.777778	1
B3	1.285714	1.285714	1	1	1.285714
B4	1.285714	1.285714	1	1	1.285714
Minimal	1	1	0.777778	0.777778	1

C5-5 PNL	B1	B2	B3	B4	Minimal
B1	1	1.142857	0.888889	0.888889	1.142857
B2	0.875	1	0.777778	0.777778	1
B3	1.125	1.285714	1	1	1.285714
B4	1.125	1.285714	1	1	1.285714
Minimal	0.875	1	0.777778	0.777778	1

C7-1 HR	B1	B2	B3	B4	Minimal
B1	1	1.125	1.285714	1.125	1.285714
B2	0.888889	1	1.142857	1	1.142857
B3	0.777778	0.875	1	0.875	1
B4	0.888889	1	1.142857	1	1.142857
Minimal	0.777778	0.875	1	0.875	1

C7-1 PNL	B1	B2	B3	B4	Minimal
B1	1	0.875	0.875	0.875	1
B2	1.14286	1	1	1	1.142857
B3	1.14286	1	1	1	1.142857
B4	1.14286	1	1	1	1.142857
Minimal	1	0.875	0.875	0.875	1

C7-3 HR	B1	B2	B3	B4	Minimal
B1	1	1.142857	1.142857	1	1.142857
B2	0.875	1	1	0.875	1
B3	0.875	1	1	0.875	1
B4	1	1.142857	1.142857	1	1.142857
Minimal	0.875	1	1	0.875	1

C7-3 PNL	B1	B2	B3	B4	Minimal
B1	1	1.333333	1.333333	1.333333	1.142857
B2	0.75	1	1	1	0.857143
B3	0.75	1	1	1	0.857143
B4	0.75	1	1	1	0.857143
Minimal	0.875	1.166667	1.166667	1.166667	1

C6-4 HR	B1	B2	B3	B4	Minimal
B1	1	1	1.142857	1	1.142857
B2	1	1	1.142857	1	1.142857
B3	0.875	0.875	1	0.875	1
B4	1	1	1.142857	1	1.142857
Minimal	0.875	0.875	1	0.875	1

C6-4 PNL	B1	B2	B3	B4	Minimal
B1	1	1.333333	1.142857	1	1.142857
B2	0.75	1	0.857143	0.75	0.857143
B3	0.875	1.166667	1	0.875	1
B4	1	1.333333	1.142857	1	1.142857
Minimal	0.875	1.166667	1	0.875	1

Candidates Weight on Interview Session Determination for position B

P1	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1	1.133893	1.06066	1.212183	1.078309	0.215068
B2	1	1	1.133893	1.06066	1.212183	1.078309	0.215068
B3	0.881917	0.881917	1	0.935414	1.069045	0.950979	0.189672
B4	0.942809	0.942809	1.069045	1	1.142857	1.01664	0.202768
Minimal	0.824958	0.824958	0.935414	0.875	1	0.88956	0.177422
					Total	5.013797	1

P3	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	0.952579	1.010363	1.010363	1	0.994423	0.198836
B2	1.049781	1	1.06066	1.06066	1.049781	1.043927	0.208734
B3	0.989743	0.942809	1	1	0.989743	0.984224	0.196797
B4	0.989743	0.942809	1	1	0.989743	0.984224	0.196797
Minimal	1	0.952579	1.010363	1.010363	1	0.994423	0.198836
					Total	5.00122	1

P5	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.069045	0.831479	0.831479	1.069045	0.953979	0.189531
B2	0.935414	1	0.777778	0.777778	1	0.892366	0.17729
B3	1.202676	1.285714	1	1	1.285714	1.147328	0.227944
B4	1.202676	1.285714	1	1	1.285714	1.147328	0.227944
Minimal	0.935414	1	0.777778	0.777778	1	0.892366	0.17729
					Total	5.033367	1

S1	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	0.992157	1.06066	0.992157	1.133893	1.034336	0.206589
B2	1.007905	1	1.069045	1	1.142857	1.042513	0.208222
B3	0.942809	0.935414	1	0.935414	1.069045	0.975182	0.194774
B4	1.007905	1	1.069045	1	1.142857	1.042513	0.208222
Minimal	0.881917	0.875	0.935414	0.875	1	0.912199	0.182194
					Total	5.006743	1

S3	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.234427	1.234427	1.154701	1.142857	1.149949	0.229294
B2	0.810093	1	1	0.935414	0.92582	0.931565	0.185749
B3	0.810093	1	1	0.935414	0.92582	0.931565	0.185749
B4	0.866025	1.069045	1.069045	1	0.989743	0.995885	0.198575
Minimal	0.875	1.080123	1.080123	1.010363	1	1.006205	0.200632
					Total	5.015168	1

T4	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.154701	1.142857	1	1.142857	1.085652	0.216637
B2	0.866025	1	0.989743	0.866025	0.989743	0.940202	0.187613
B3	0.875	1.010363	1	0.875	1	0.949946	0.189557
B4	1	1.154701	1.142857	1	1.142857	1.085652	0.216637
Minimal	0.875	1.010363	1	0.875	1	0.949946	0.189557
					Total	5.011397	1

C7-5	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1	1	1	1.142857	1.027066	0.205128
B2	1	1	1	1	1.142857	1.027066	0.205128
B3	1	1	1	1	1.142857	1.027066	0.205128
B4	1	1	1	1	1.142857	1.027066	0.205128
Minimal	0.875	0.875	0.875	0.875	1	0.898683	0.179487
					Total	5.006947	1

C7-6	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.166667	0.875	0.875	1	0.977671	0.194444
B2	0.857143	1	0.75	0.75	0.857143	0.838003	0.166667
B3	1.142857	1.333333	1	1	1.142857	1.117338	0.222222
B4	1.142857	1.333333	1	1	1.142857	1.117338	0.222222
Minimal	1	1.166667	0.875	0.875	1	0.977671	0.194444
					Total	5.028021	1

C6-2	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.333333	1.142857	1	1.142857	1.117338	0.222222
B2	0.75	1	0.857143	0.75	0.857143	0.838003	0.166667
B3	0.875	1.166667	1	0.875	1	0.977671	0.194444
B4	1	1.333333	1.142857	1	1.142857	1.117338	0.222222
Minimal	0.875	1.166667	1	0.875	1	0.977671	0.194444
					Total	5.028021	1

C6-3	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.142857	0.888889	0.888889	1.142857	1.006319	0.2
B2	0.875	1	0.777778	0.777778	1	0.880529	0.175
B3	1.125	1.285714	1	1	1.285714	1.132109	0.225
B4	1.125	1.285714	1	1	1.285714	1.132109	0.225
Minimal	0.875	1	0.777778	0.777778	1	0.880529	0.175
					Total	5.031596	1

C6-5	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.142857	1.142857	1	1.142857	1.083416	0.216216
B2	0.875	1	1	0.875	1	0.947989	0.189189
B3	0.875	1	1	0.875	1	0.947989	0.189189
B4	1	1.142857	1.142857	1	1.142857	1.083416	0.216216
Minimal	0.875	1	1	0.875	1	0.947989	0.189189
					Total	5.010798	1

C3-1	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.142857	1	1	1.142857	1.054865	0.210526
B2	0.875	1	0.875	0.875	1	0.923007	0.184211
B3	1	1.142857	1	1	1.142857	1.054865	0.210526
B4	1	1.142857	1	1	1.142857	1.054865	0.210526
Minimal	0.875	1	0.875	0.875	1	0.923007	0.184211
					Total	5.010608	1

C3-3	B1	B2	B3	B4	Minimal	GM	WEIGHT
B1	1	1.142857	1	1	1.142857	1.054865	0.210526
B2	0.875	1	0.875	0.875	1	0.923007	0.184211
B3	1	1.142857	1	1	1.142857	1.054865	0.210526
B4	1	1.142857	1	1	1.142857	1.054865	0.210526
Minimal	0.875	1	0.875	0.875	1	0.923007	0.184211
					Total	5.010608	1

Weight of Candidates in Interview Session for Position B

WEIGHT OF CANDIDATES													
CANDIDATE	C5-1	C5-3	C5-5	C7-1	C7-3	C6-4	C7-5	C7-6	C6-2	C6-3	C6-5	C3-1	C3-3
B1	0.215068	0.198836	0.189531	0.206589	0.229294	0.216637	0.205128	0.194444	0.222222	0.2	0.2162162	0.21053	0.210526
B2	0.215068	0.208734	0.17729	0.208222	0.185749	0.187613	0.205128	0.166667	0.166667	0.175	0.1891892	0.18421	0.184211
B3	0.189672	0.196797	0.227944	0.194774	0.185749	0.189557	0.205128	0.222222	0.194444	0.225	0.1891892	0.21053	0.210526
B4	0.202768	0.196797	0.227944	0.208222	0.198575	0.216637	0.205128	0.222222	0.222222	0.225	0.2162162	0.21053	0.210526
Minimal	0.177422	0.198836	0.17729	0.182194	0.200632	0.189557	0.179487	0.194444	0.194444	0.175	0.1891892	0.18421	0.184211

Final Score of Candidates in Interview Session for Position B

FINAL SCORE OF CANDIDATES															
CANDIDATE	C5-1	C5-3	C5-5	C7-1	C7-3	C6-4	C7-5	C7-6	C6-2	C6-3	C6-5	C3-1	C3-3	TOTAL	RANK
B1	0.0040	0.0033	0.0048	0.0076	0.0069	0.0068	0.0070	0.0087	0.0076	0.0057	0.0089	0.0077	0.005354	0.0842	2
B2	0.0040	0.0035	0.0045	0.0077	0.0056	0.0059	0.0070	0.0074	0.0057	0.0050	0.0078	0.0067	0.004684	0.0753	5
B3	0.0035	0.0033	0.0058	0.0072	0.0056	0.0059	0.0070	0.0099	0.0067	0.0064	0.0078	0.0077	0.005354	0.0820	3
B4	0.0037	0.0033	0.0058	0.0077	0.0060	0.0068	0.0070	0.0099	0.0076	0.0064	0.0089	0.0077	0.005354	0.0860	1
Minimal	0.0033	0.0033	0.0045	0.0067	0.0061	0.0059	0.0061	0.0087	0.0067	0.0050	0.0078	0.0067	0.004684	0.0753	4

Appendix 11 – Probation Stage Decision Making
Score of Probation Stage

CRITERION	CONVERT									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4
C5-1					8	8	7			7
C5-2					7	7	8			6
C5-4					8	9	8			8
C5-5					9	6	8			7
C5-6					8	8	8			8
C5-7					8	9	9			9
C6-1					8	8	7			9
C6-2					7	6	8			8
C6-5					8	8	9			8
C7-1					9	7	8			8
C7-2					8	9	6			9
C7-3					6	8	8			8
C7-4					8	8	7			8
C7-5					9	8	9			8
C7-6					8	7	7			8
C1-2					7	7	7			8

Candidates Weight on Probation Stage Determination for Position A

C5-1	A5	A6	Minimal	GM	Weight
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C6-5	A5	A6	Minimal	GM	Weight
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C5-2	A5	A6	Minimal	GM	Weight
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C7-1	A5	A6	Minimal	GM	Weight
A5	1	1.285714	1.285714	1.182396	0.391304
A6	0.777778	1	1	0.919641	0.304348
Minimal	0.777778	1	1	0.919641	0.304348
			Total	3.021679	1

C5-4	A5	A6	Minimal	GM	Weight
A5	1	0.888889	1.142857	1.005263	0.333333
A6	1.125	1	1.285714	1.130921	0.375
Minimal	0.875	0.777778	1	0.879605	0.291667
			Total	3.01579	1

C7-2	A5	A6	Minimal	GM	Weight
A5	1	0.888889	1.142857	1.005263	0.333333
A6	1.125	1	1.285714	1.130921	0.375
Minimal	0.875	0.777778	1	0.879605	0.291667
			Total	3.01579	1

C5-5	A5	A6	Minimal	GM	Weight
A5	1	1.5	1.285714	1.24474	0.409091
A6	0.666667	1	0.857143	0.829827	0.272727
Minimal	0.777778	1.166667	1	0.968131	0.318182
			Total	3.042697	1

C7-3	A5	A6	Minimal	GM	Weight
A5	1	0.75	0.857143	0.863054	0.285714
A6	1.333333	1	1.142857	1.150739	0.380952
Minimal	1.166667	0.875	1	1.006897	0.333333
			Total	3.02069	1

C5-6	A5	A6	Minimal	GM	Weight
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C5-7	A5	A6	Minimal	GM	Weight
A5	1	0.888889	1.142857	1.005263	0.333333
A6	1.125	1	1.285714	1.130921	0.375
Minimal	0.875	0.777778	1	0.879605	0.291667
			Total	3.01579	1

C6-1	A5	A6	Minimal	GM	Weight
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C6-2	A5	A6	Minimal	GM	Weight
A5	1	1.166667	1	1.052727	0.35
A6	0.857143	1	0.857143	0.902337	0.3
Minimal	1	1.166667	1	1.052727	0.35
			Total	3.00779	1

C7-4	A5	A6	Minimal	GM	Weight
A5	1	1	1.142857	1.045516	0.347826
A6	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C7-5	A5	A6	Minimal	GM	Weight
A5	1	1.125	1.285714	1.130921	0.375
A6	0.888889	1	1.142857	1.005263	0.333333
Minimal	0.777778	0.875	1	0.879605	0.291667
			Total	3.01579	1

C7-6	A5	A6	Minimal	GM	Weight
A5	1	1.142857	1.142857	1.093104	0.363636
A6	0.875	1	1	0.956466	0.318182
Minimal	0.875	1	1	0.956466	0.318182
			Total	3.006035	1

C1-2	A5	A6	Minimal	GM	Weight
A5	1	1	1	1	0.333333
A6	1	1	1	1	0.333333
Minimal	1	1	1	1	0.333333
			Total	3	1

Weight of Candidates in Probation Stage for Position A

CANDIDATE	WEIGHT OF CANDIDATES															
	C5-1	C5-2	C5-4	C5-5	C5-6	C5-7	C6-1	C6-2	C6-5	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6	C1-2
A5	0.347826	0.347826	0.333333	0.409091	0.347826	0.333333	0.347826	0.3500	0.347826	0.391304	0.333333	0.285714	0.347826	0.375	0.363636	0.333333
A6	0.347826	0.347826	0.375	0.272727	0.347826	0.375	0.347826	0.3000	0.347826	0.304348	0.375	0.380952	0.347826	0.333333	0.318182	0.333333
Minimal	0.304348	0.304348	0.291667	0.318182	0.304348	0.291667	0.304348	0.3500	0.304348	0.304348	0.291667	0.333333	0.304348	0.291667	0.318182	0.333333

Final Score of Candidates in Probation Stage for Position A

CANDIDATE	FINAL SCORE OF CANDIDATES																	
	C5-1	C5-2	C5-4	C5-5	C5-6	C5-7	C6-1	C6-2	C6-5	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6	C1-2	TOTAL	RANK
A5	0.006389	0.006027	0.006234	0.010339	0.019115	0.014143	0.013896	0.011987	0.01431	0.014479	0.013866	0.008619	0.010864	0.012742	0.01618	0.005398	0.184588	1
A6	0.006389	0.006027	0.007013	0.006893	0.019115	0.015911	0.013896	0.010275	0.01431	0.011261	0.015599	0.011492	0.010864	0.011326	0.014158	0.005398	0.179927	2
Minimal	0.00559	0.005274	0.005454	0.008041	0.016725	0.012375	0.012159	0.011987	0.012522	0.011261	0.012133	0.010055	0.009506	0.00991	0.014158	0.005398	0.16255	3

Candidates Weight on Probation Stage Determination for Position B

C5-1	B1	B4	Minimal	GM	Weight
B1	1	1	1	1	0.333333
B4	1	1	1	1	0.333333
Minimal	1	1	1	1	0.333333
			Total	3	1

C6-5	B1	B4	Minimal	GM	Weight
B1	1	1.125	1.285714	1.130921	0.375
B4	0.888889	1	1.142857	1.005263	0.333333
Minimal	0.777778	0.875	1	0.879605	0.291667
			Total	3.01579	1

C5-2	B1	B4	Minimal	GM	Weight
B1	1	1.333333	1.142857	1.150739	0.380952
B4	0.75	1	0.857143	0.863054	0.285714
Minimal	0.875	1.166667	1	1.006897	0.333333
			Total	3.02069	1

C7-1	B1	B4	Minimal	GM	Weight
B1	1	1	1.142857	1.045516	0.347826
B4	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C5-4	B1	B4	Minimal	GM	Weight
B1	1	1	1.142857	1.045516	0.347826
B4	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C7-2	B1	B4	Minimal	GM	Weight
B1	1	0.666667	0.857143	0.829827	0.272727
B4	1.5	1	1.285714	1.24474	0.409091
Minimal	1.166667	0.777778	1	0.968131	0.318182
			Total	3.042697	1

C5-5	B1	B4	Minimal	GM	Weight
B1	1	1.142857	1.142857	1.093104	0.363636
B4	0.875	1	1	0.956466	0.318182
Minimal	0.875	1	1	0.956466	0.318182
			Total	3.006035	1

C7-3	B1	B4	Minimal	GM	Weight
B1	1	1	1.142857	1.045516	0.347826
B4	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C5-6	B1	B4	Minimal	GM	Weight
B1	1	1	1.142857	1.045516	0.347826
B4	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C5-7	B1	B4	Minimal	GM	Weight
B1	1	1	1.285714	1.08738	0.36
B4	1	1	1.285714	1.08738	0.36
Minimal	0.777778	0.777778	1	0.84574	0.28
			Total	3.020501	1

C6-1	B1	B4	Minimal	GM	Weight
B1	1	0.777778	1	0.919641	0.304348
B4	1.285714	1	1.285714	1.182396	0.391304
Minimal	1	0.777778	1	0.919641	0.304348
			Total	3.021679	1

C6-2	B1	B4	Minimal	GM	Weight
B1	1	1	1.142857	1.045516	0.347826
B4	1	1	1.142857	1.045516	0.347826
Minimal	0.875	0.875	1	0.914826	0.304348
			Total	3.005858	1

C7-4	B1	B4	Minimal	GM	Weight
B1	1	0.875	1	0.956466	0.318182
B4	1.142857	1	1.142857	1.093104	0.363636
Minimal	1	0.875	1	0.956466	0.318182
			Total	3.006035	1

C7-5	B1	B4	Minimal	GM	Weight
B1	1	1.125	1.285714	1.130921	0.375
B4	0.888889	1	1.142857	1.005263	0.333333
Minimal	0.777778	0.875	1	0.879605	0.291667
			Total	3.01579	1

C7-6	B1	B4	Minimal	GM	Weight
B1	1	0.875	1	0.956466	0.318182
B4	1.142857	1	1.142857	1.093104	0.363636
Minimal	1	0.875	1	0.956466	0.318182
			Total	3.006035	1

C1-2	B1	B4	Minimal	GM	Weight
B1	1	0.875	1	0.956466	0.318182
B4	1.142857	1	1.142857	1.093104	0.363636
Minimal	1	0.875	1	0.956466	0.318182
			Total	3.006035	1

Weight of Candidates in Probation Stage for Position B

CANDIDATE	WEIGHT OF CANDIDATES															
	C5-1	C5-2	C5-4	C5-5	C5-6	C5-7	C6-1	C6-2	C6-5	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6	C1-2
B1	0.333333	0.38095238	0.347826	0.363636	0.347826	0.36	0.304348	0.347826	0.375	0.347826	0.272727	0.347826	0.318182	0.375	0.318182	0.318182
B4	0.333333	0.28571429	0.347826	0.318182	0.347826	0.36	0.391304	0.347826	0.333333	0.347826	0.409091	0.347826	0.363636	0.333333	0.363636	0.363636
Minimal	0.333333	0.33333333	0.304348	0.318182	0.304348	0.28	0.304348	0.304348	0.291667	0.304348	0.318182	0.304348	0.318182	0.291667	0.318182	0.318182

Final Score of Candidates in Probation Stage for Position B

CANDIDATE	FINAL SCORE OF CANDIDATES																	
	C5-1	C5-2	C5-4	C5-5	C5-6	C5-7	C6-1	C6-2	C6-5	C7-1	C7-2	C7-3	C7-4	C7-5	C7-6	C1-2	TOTAL	RANK
B1	0.006123	0.00660092	0.006505	0.00919	0.019115	0.015275	0.012159	0.011913	0.015428	0.01287	0.011345	0.010492	0.009938	0.012742	0.014158	0.005152	0.179006	2
B4	0.006123	0.00495069	0.006505	0.008041	0.019115	0.015275	0.015633	0.011913	0.013714	0.01287	0.017018	0.010492	0.011358	0.011326	0.01618	0.005888	0.186402	1
Minimal	0.006123	0.00577581	0.005692	0.008041	0.016725	0.01188	0.012159	0.010423	0.012	0.011261	0.013236	0.009181	0.009938	0.00991	0.014158	0.005152	0.161657	3

Appendix 12 – Assessment Criterion Classification for LYS Corp. Recruitment Process

Assessment Criterion				
CV Selection	Psychological Test	Interview Stage		Probation Stage
		Interview HR	Interview Panel	
Degree	Emotional Quotient	Attitude	Knowledge	Attitude
GPA	Spiritual Quotient	Appearance	Attitude	Discipline
Professional Licenses	Intellectual Quotient	Initiative	Appearance	Independency
Current Position		Computer Competency	Initiative	Initiative
Projects Taken		Language	Planning Ability	Persistence
Age		Communication	Language	Responsibility
Gender		Judgement	Resourceful	Project Management
		Current Salary	Communication	Planning Ability
			Judgement	Resourceful
			Decisive	Communication
			Analytical & Logical	Teamwork
				Judgement
				Leadership
				Decisive
				Analytical & Logical
				Health Condition

Appendix 13 – Current Recruitment Decision of LYS Corp.

Recruitment Stage	Candidate									
	A1	A2	A3	A4	A5	A6	B1	B2	B3	B4
CV Selection	Failed	Failed	Failed	Passed	Passed	Passed	Passed	Passed	Passed	Passed
Psychological Test				Passed	Passed	Passed	Passed	Passed	Passed	Passed
Interview Session				Failed	Failed	Passed	Passed	Failed	Passed	Passed
Probation						Passed	Failed		Passed	Passed
Decision	Failed	Failed	Failed	Failed	Failed	***Chosen***	Failed	Failed	***Chosen***	Not Chosen

Appendix 14 – Description of Recruitment Assessment Criterion

CV SELECTION			
CRITERION	SUB-CRITERION	CODE	INDICATOR
Educational Background	Degree	C2-1	Assessment based on the priority of degrees which requested by User
	GPA	C2-2	Assessment based on Candidate's GPA towards company requirement of minimum GPA
	Professional Licenses	C2-3	Candidate's professional licenses which support to the position applied
Work Experience	Current Position	C3-4	Experience in working of particular position can increase the score of candidate
	Projects Taken	C3-2	The number and position of candidates in a certain projects can increase the score of candidate
General	Age	C1-1	Assessment based on range of age which requested by user
	Gender	C1-3	Assessment based on gender which requested by user
PSYCHOLOGICAL TEST			
CRITERION	SUB-CRITERION	CODE	INDICATOR
Psychological Test	Emotional Quotient	C4-1	Assessment given by matching the test result with the company's standard and requests of the user
	Spiritual Quotient	C4-2	
	Intellectual Quotient	C4-3	

INTERVIEW HR			
CRITERION	SUB-CRITERION	CODE	INDICATOR
Personality	Attitude	C5-1	Assessment based on act and courtesy of candidates during the interview session
	Appearance	C5-3	Assessment based on dress, hygiene, and grooming of candidates
	Initiative	C5-5	Assessment based on proactive and anticipation of candidates during the session
Technical Skill	Computer Competency	C6-3	Assessment based on knowledge to use the basic computer
	Language	C6-4	Having more than one language proficiency will be more beneficial
Soft Skill	Communication	C7-1	Assessment based on professionalism in communication
	Judgement	C7-3	Assessment based on the judgement of candidates to a problem. Usually through case studies prepared
Work Experience	Current Salary	C3-3	Assessment based on current salary to know the level of remuneration currently enjoy and compare to the organization offer.
INTERVIEW PANEL			
CRITERION	SUB-CRITERION	CODE	INDICATOR
Work Experience	Knowledge	C3-1	Assessment of candidate's knowledge about relative jobs which related to the position applied

Personality	Attitude	C5-1	Assessment based on act and courtesy of candidates during the interview session
	Appearance	C5-3	Assessment based on dress, hygiene, and grooming of candidates
	Initiative	C5-5	Assessment based on proactive and anticipation of candidates during the session
Technical Skill	Planning Ability	C6-2	Assessment towards ability of candidate in planning the work to achieve the project goals
	Language	C6-4	Having more than one language proficiency will be more beneficial
	Resourceful	C6-5	Assessment towards ability of candidate to deal skillfully and promptly with new situation and difficulties.
Soft Skill	Communication	C7-1	Assessment based on professionalism in communication
	Judgement	C7-3	Assessment based on the judgement of candidates to a problem. Usually through case studies prepared
	Decisive	C7-5	Assessment based on candidate's decision towards a problem, usually through case studies given
	Analytical & Logical	C7-6	Assessment towards ability of candidate to analyze the problem and situation in finding problem solution

PROBATION STAGE			
CRITERION	SUB-CRITERION	CODE	DESCRIPTION
Personality	Attitude	C5-1	Assessment based on act and courtesy of candidates during the interview session
	Discipline	C5-2	Assessment towards candidate time management and working performance
	Independency	C5-4	Assessment based on ability of candidate in doing the jobs independently
	Initiative	C5-5	Assessment based on proactive and anticipation of candidates during the session
	Persistence	C5-6	Assessment towards candidate's persistence in continuing to do their job even when there is good reason to quit
	Responsibility	C5-7	Assessment based on the responsibility of employees to complete the tasks they are assigned, to perform the duties required by their job
Technical Skill	Project Management	C6-1	Assessment based on candidate's management skill in controlling their work to achieve the project goals
	Planning Ability	C6-2	Assessment towards ability of candidate in planning the work to achieve the project goals
	Resourceful	C6-5	Assessment towards ability of candidate to deal skillfully and promptly with new situation and difficulties.

Soft Skill	Communication	C7-1	assessment based on professionalism in communication
	Teamwork	C7-2	Assessment based on candidates contribution in project team
	Judgement	C7-3	Assessment based on the judgement of candidates to a problem. Usually through case studies prepared
	Leadership	C7-4	Assessment based on the skill of candidates to lead a project and full responsibility
	Decisive	C7-5	Assessment based on candidate's decision towards a problem, usually through case given practically
	Analytical & Logical	C7-6	Assessment towards ability of candidate to analyze the problem and situation in finding problem solution
Others	Health Condition	C1-2	Assessment based on medical check result conducted in that company