Decision Support System For New Employee Recruitment In PT. Prosweal Indomax Using The Simple Additive Weighting

Anti Aprianti a,1,*, Yayatillah Rubiati b,2, Muhamad Renaldi Aripin c,3, Cecep Warman d,4, Dudih Gustian e,5.

a, b, c, d, e Department of Information System, Nusa Putra University, Jl. Raya Cibolang Kaler No.21, Kab. Sukabumi 43152, Indonesia

1 anti.aprianti_si17@nusaputra.ac.id, *yayatillah.rubiati_si17@nusaputra.ac.id, 2muhamad.rinaldi_si17@nusaputra.ac.id, 
3cecep.warman@nusaputra.ac.id, 4dudih@nusaputra.ac.id

* Corresponding Author

Received 02 May 2020; revised 10 May 2020; accepted 15 May 2020

ABSTRACT

The eligibility for hiring new employees based on certain criteria that the company expects is something that is very rarely obtained. The acceptance process may result in inaccurate and productive decisions due to inefficient admission processes. There are several criteria in making decisions about the recruitment of new employees at PT. Prosweal Indomax, which is based on latest education, expertise, age and work experience. Purpose made This system is able to help make decisions to determine the optimal recruitment process using the method Simple Additive Weighting (SAW). This method was chosen because this method determines the weight value for each attribute, then is followed by a ranking process that will select the best alternative. The research was conducted by finding the weighted value for each criterion, and then creating a ranking process that would determine which alternative was the best applicant.

KEYWORDS

Decision Support System
Simple Additive Weighting
recruitment of employees

1. Introduction

Human Resources (HR) is very important in a company in achieving its goals. One of the activities in human resources is employee recruitment, which is a strategic stage to identify the right candidate for employees. In a broader sense from an employment perspective, the need for employees both in terms of quantity and quality is a top priority to support the company in responding to the various problems and challenges it faces. Therefore, the company definitely needs a workforce who has the quality and ability to match the qualifications in the company. Human resources must be managed properly to increase the effectiveness and efficiency of the organization as a function within the company [1].

PT. Prosweal Indomax is a company engaged in the field of Food and Beverages (F&B) or traditional food and medicine. It is a branch of PT Novell Pharmaceutical Laboratories located in Gunung Putri. PT. Prosweal Indomax was established in 2020. Therefore, it still requires a lot of human resources, PT. Prosweal does not want any failure in the process of accepting human resources. Therefore objectivity is very necessary to be able to support any decisions in order to get good human resources for a long period of time.

The registration process and selection of prospective employees at PT. Currently, Indomax prosweal is still done manually so that prospective employees who wish to register must come directly to the company. The number of aspects or criteria established by the selection of prospective employees makes calculating their value more difficult. Seeing this, it is necessary to have a decision support system in the form of recruitment data processing optimally computerized employees to be more effective and efficient [2].

The use of information systems in employee recruitment is online employee recruitment or also known as employee recruitment information systems. System analysis is carried out to identify and evaluate problems that occur in business organizations whose analysis results will be used to design a new system, while system design is carried out to describe a new system that is useful for solving system problems.

Research conducted by Ri Sabti Septarini et.al. With the title “The Implementation of Weighted Products in the Support System of Scholarship Acceptance Decisions at the MA AL-Falahiyah AL-
Asytari”. Scholarships are a form of appreciation given to individuals in order to continue their education to a higher level. The scholarship program held to ease the burden on students in pursuing a period of study. Especially in matters of cost. MA Al-Falahiyah Al-Asytari organizes a scholarship program for students based on criteria determined by the school. The need for a scholarship naming decision system is one of the core needs so that the selection of scholarship acceptance is more objective and practical. Development of a Decision Support System (DSS) using the Weighted Product model chosen because it was able to select the best alternatives from several alternatives and their advantages in weighting techniques. In designing the system using Unified Modeling Language (UML) and making applications using PHP and MySQL as a database. From the research the authors have described, it concluded that the weight product method could use as one method in developing a decision support system for scholarship recipients at the MA Al-Falahiyah Al-Asytari, by inputting data from students who submit scholarships to calculating grades based on criteria which specified [3].

This research was conducted Liesnaningsih et.al. With the title "Scholarship Decision Support System Based WEB Using The Simple Additive Weighting (SAW) Method at Islamic Boarding School Daa'ul Ahsan". Scholarships are a work program in every school or madrasa. The scholarship program is held to ease the burden on students in pursuing their studies especially in financial costs. Scholarships are given to students in a selective manner in accordance with the type of scholarships held. Distribution of scholarships is carried out by several institutions to help someone who is less capable or achieves during his studies. Based on this to help determine a student to get a scholarship, then a decision support system is needed. The model used in this decision support system is simple additive weighting, this method is often also known as the weighted sum method, the basic concept of this method is to find the weighted sum of the ranking of performance on each alternative on all attributes. This method was chosen because it is able to select the best alternative from a number of alternatives, in this case the intended alternative is the one who is entitled to receive a scholarship based on specified criteria [4].

This research was conducted by Jully Triansyah et.al. With the title "Best Employee Performance Assessment Decision Support System On Cv. Tangerang Technical Works Source Using Website-Based Saw Method (Simple Additive Weighting)". This research is based on the difficulty of the CV. Technical Work Sources in assessing the performance of each employee due to lack of clear employee assessment criteria. Decision Support System (DSS) is a system that is able to provide problem-solving capabilities and communication skills for problems with semi-structured and unstructured conditions. Decision support system using the SAW (simple additive weighting) method. This method was chosen because it can determine the weight value for each attribute that will select the best alternative. The quality and spirit of work provided by employees can help the sustainability of the progress of a CV. Source of Engineering Work. To support the spirit of work in the work, the company applies rewards or awards to the best employees that are done periodically or known as employee of the month (EOM). The award given can be in the form of salary addition or promotion [5].

Aditya Rizky Pratama and Ismarmiati, "PT. Employee Recruitment Decision Support System. Cakra Mobilindo Using Method Simple Additive Weighting ". There are 5 criteria used, namely: (1) GPA (2) Competency test (3) Psychological test (4) Basic ability test (5) Interview. research can build systems decision support to assist users to be able to recruit prospective employees of PT. Cakra Mobilindo is technology based website according to the needs that have been agreed upon between the researcher and the application user and (2) the results of user testing of the system conclude that the application built makes it easier for managers to make decisions on selecting prospective employees and the system can simplify employee registration at PT. Cakra Mobilindo amounts to 100% and helps applicants to carry out the recruitment process for prospective employees of 82.5% [6].

Research was conducted by Dudih Gustian et.al. With the title "Employee Performance Assessment Decision System Using The Analytical Hierarchy Process Method". This research was conducted at the Kadudampit Health Center as a function of health services. There is a problem of the quality of work of employees in the field, namely the unstable performance of employees every month due to lack of supervision that is not optimal so that it can have an impact on service to the community in receiving services at the public health center. This study uses the Analytical Hierarchy Process method which results in a more objective decision by assigning scores to each predetermined criteria and obtaining the results of an assessment with an attitude value of 2.3446, discipline 0/860, presence of 0.820 and 0.549. The website-based system is tested by Quality Assurance Software method by using 5 random users to get
average value of 81. This means that the results of this test can be accepted by the user in the process of evaluating employee performance [7].

Falentino Sembiring et.al. Conducted research with the title "Employee Performance Assessment CV.Krissamindo with Simple Additive Weighting". In increasing human resources in the company, a selective performance assessment process is needed that aims to get competent human resources and achieve targeted work in the company. Objectivity is therefore necessary in supporting every decision. In this case, CV.Krissamindo company is still not optimal in the implementation of its employee performance assessment, and in its assessment is subjective. The problem that arises in the performance assessment of CV.Krissamindo employees is that subjective performance assessment is not based on weighting of performance criteria. So according to researchers, a system of supporting employee performance assessment decisions objectively at CV.Krissamindo company uses Simple Additive Weighting (SAW) code based on the criteria specified, namely, working period, absence, performance achievement. The result of this study is the implementation of the SAW Method of employee performance assessment of CV.Krissamindo so that the author hopes to help facilitate in making decisions assessing the best employee performance objectively based on the weight of each criterion [8].

Nurul Putri Utami et.al. Conducted research with the title "SPK Determination of Lending to Bumdes Members With Simple Additive Weighting Method". Information technology as a tool in the quality of manpower is one of the ways of government in the village, especially in the field of village-owned enterprises which are still doing work with the manual system. In addition, where it really needs a decision support system to help human resources in utilizing technology to run a process quickly and efficiently. The approach to find the value of attribute weights, namely approaching the existence of subjective, objective approaches and approaches of integration between subjective and objective. Decision Support System Implementation with Simple Additive Weighting Method can be used to determine the granting of loans to members of BUMDes Maju Bersama by entering in the form of alternative data and then entering the weight value seen in the existing criteria, so that it can produce the calculation value and the ranking of the prospective loan recipient. This draft will show the final results of each member who will borrow funds, and the highest rating can be said of the members who will receive loan assistance, the lowest rating will be given the opportunity to make decisions later to receive loan assistance [9].

**Decision support system for new employee recruitment using weighted product method**

Companies require unused workers that are anticipated to meet the evaluation of each criteria. The criteria set by the company is anticipated to gotten to be a quality standard for the employee's possess individual advance. One of the issues within the enlistment of modern workers is the problem of subjectivity within the choice for the assurance of a modern representative candidates. The inquire about objective is to encourage decision-making on issues related to making choice of unused representatives enlistment. Preparing of information on investigate utilizing Weighted Product strategies with the concept of duplication to associate rating attributes which ought to be raised to development with the relevant weights. The criteria used within the investigate of unused workers enlistment taken in common that's adaptable within the sense that can be included or the inverse of instruction, GPA, work encounter, meet and test essential aptitudes. Comes about of the investigate could be a choice bolster framework application web-based enlistment of modern representatives who give in [11]

**The best of village head performance: Simple additive weighting method**

The village head is the leader of the village level government. Achieving the development of a village demands the role of a qualified village head. His role, duties, and responsibilities are crucial to the progress of the village. Simple Additive Weighting (SAW) method is one of the methods in decision support system where alternative and criteria have been determined. Criteria that have been determined include: gender, how long served, how the facilities and infrastructure, achievement of the program, and the welfare of the community. Based on the results of research that has been done in Pagelaran Subdistrict of ten alternatives in the trial then there is a ranking order ranking as follows A3 with the largest value 1; A1 = 0,9; A5 = 0,85; A10 = 0,83; A2 = 0,83; A6 = 0,78; A7 = 0,68; A4 = 0,58; A9 = 0,51, and A8 has a value of 0,31 which is the lowest value of the alternatives already in trial.[12]

**Determination of the best quail eggs using simple additive weighting**

Eggs are livestock products contributed greatly to the achievement of the nutritional adequacy of the public; the egg is a food that is very good for children who are growing because it contains nutrients such as a complete protein, fat, vitamins and minerals that are easy to digest. One of the eggs are much in demand by children are quail eggs. The nutritional value of quail eggs is not less than the nutritional value of eggs containing 12.8% protein and 11.5% fat. Quail eggs are good quality will have good nutritional value.
anyway. To determine the quality of a good quail eggs will require an expert system. The method used in determining the quality of a good quail eggs using Simple Additive weighting method. The criteria in this research that egg size, style/color of the shell, the shell thickness, shell texture, shape and cleanliness of quail eggs. With the expert system is expected to assist farmers in determining the quail eggs quail egg quality so that the people can consume quail eggs that have good nutritional value. The results of this study showed an alternative ranking first in C with a value of 0.95, ranking second D with a value of 0.7208, ranking third E with a value of 0675, ranking the fourth A with a value of 0.4542 and ranking last in the B with a value of 0.4541[13]

Sistem Pendukung Keputusan Pemilihan Motor Dengan Metode Simple Additive Weighting (SAW), Bike may be a exceptionally compelling and productive implies of transportation. The expanding number of bike items presently makes consumers have their claim choice to purchase the correct cruiser and agreeing to their wants, needs and capacities. The reason of this ponder is to make a framework plan for choice back for engine item determination utilizing the Straightforward Added substance Weighting (SAW) strategy. This choice back framework only compares 3 Honda, Yamaha and Suzuki bike items. The protest of the investigate was carried out within the Gresik rule. The comes about of this think about were a choice bolster framew 

Simple Additive Weighting Method for The Assessment of Sharia Banking Performance

Application of Simple Additive Weighting Method for Determination of Toddler Nutrition Status

Simple Additive Weighting Method to Determining Employee Salary Increase Rate

Representatives are seen as one of the vital company resources and ought to be overseen and created to bolster the survival and accomplishment of corporate objectives. One shape of representative organization that can be done by the company is to supply fitting compensation installments for workers. Increment in compensation enormously influences the inspiration and efficiency of representatives in actualizing and completing the work. To decide the size of the compensation increment, a framework is required that can bolster the choice making done by the director. Utilization of choice bolster framework utilizing Straightforward Added substance Weighting (SAW) strategy makes a difference directors to form speedier and more precise choice making. The fundamental concept of the SAW strategy is to discover the weighted entirety of execution evaluations on each elective and on all traits that require the method of normalizing the choice framework (X) to a scale comparable to all existing elective.[17]
Higher education selection using simple additive weighting, Companies need modern faculty that are anticipated to fulfill the evaluation of each criteria. The benchmarks set through the enterprise is anticipated to turn out to be a best common for the employee’s exceptionally claim individual advancement. One of the issues within the enlistment of most recent work force is the trouble of subjectivity within the determination for the assurance of latest representative candidates. The considers objective is to encourage choice-making on issues related to making choice of unused representatives enlistment. Preparing of records on investigate the utilization of Weighted Item methods with the concept of duplication to join score properties which ought to be raised to create with the significant weights. The guidelines utilized interior the research of most recent representatives enrollment taken in wellknown that's flexible interior the feel which will be brought or the inverse of schooling, GPA, work appreciate, meet and take a see at basic abilities. Comes about of the investigate could be a choice back gadget app.[18]

Selection of dancer member using simple additive weighting Travel and dance frame in Indonesia is closely related to the improvement of community life, both in terms of ethnic structure and inside the scope of the unitary state. This ponder decides the criteria for selecting artist individuals and how to apply the qualified Basic strategy. Based on foreordained criteria is the capacity to move physical adaptability, talented, agile, sure, have the capacity, fill out the shape, and certificate of accomplishment. From the comes about gotten values at that point V1, V2, V3, V4, V5 may be a member of a qualified artist and includes a most noteworthy esteem with a score of 100 which was gotten from V2 [19]

Sistem Pendukung Keputusan Pemilihan Smartphone Menggunakan Metode Simple Additive Weighting, The cell phone determination choice emotionally supportive network utilizing the Straightforward Added substance Weighting (SAW) strategy can assist planned clients who with doing not have the foggiest idea about the right cell phone, appropriate, and as indicated by needs founded on the other options and rules determined. The framework worked with the Basic Added substance Weighting (SAW) technique has been carried out into the framework to handle information to give the right cell phone proposal results. This framework can work with navigation in light of proiritas with the choices gave. This framework can help planned clients in deciding the right cell phone. [20]

Sistem Pendukung Keputusan Untuk Menentukan Biji Kopi Berkualitas Menggunakan (Simple Additive Weighting). The purpose of this paper is to develop a Decision Support System for determining quality coffee beans based on existing criteria. The method used is the Simple Additive Weighting (SAW). The results obtained are Decision Support Systems that can be accessed by Admin and Customer to select the desired coffee beans that are run by using XAMPP as Localhost and PHPMyAdmin as a Database. Based on the experiments conducted, it can be concluded that the system created can be run and can help customers in making decisions to determine quality coffee beans[21]

Determination of the best quail eggs using simple additive weighting, Eggs are livestock products contributed greatly to the achievement of the nutritional adequacy of the public; the egg is a food that is very good for children who are growing because it contains nutrients such as a complete protein, fat, vitamins and minerals that are easy to digest. One of the eggs are much in demand by children are quail eggs. The nutritional value of quail eggs is not less than the nutritional value of eggs containing 12.8% protein and 11.5% fat. Quail eggs are good quality will have good nutritional value anyway. To determine the quality of a good quail eggs will require an expert system. The method used in determining the quality of a good quail eggs using Simple Additive weighting method. The criteria in this research that egg size, style/color of the shell, the shell thickness, shell texture, shape and cleanliness of quail eggs. With the expert system is expected to assist farmers in determining the quail eggs quail egg quality so that the people can consume quail eggs that have good nutritional value. The results of this study showed an alternative ranking first in C with a value of 0.95, ranking second D with a value of 0.7208, ranking third E with a value of 0675, ranking the fourth A with a value of 0.4542 and ranking last in the B with a value of 0.4541.[22]

Decision making for the selection of cloud vendor: An improved approach under group decision-making with integrated weights and objective/subjective qualities Cloud computing innovation has gotten to be progressively well known and can convey a have of benefits. In any case, there are different sorts of cloud suppliers within the advertise and firms require logical choice devices.
to judge which cloud computing seller ought to be chosen. Considers in how a firm ought to select an suitable cloud merchant have fair begun. In any case, existing considers are primarily from the innovation and taken a toll point of view, and disregard other impact components, such as competitive weight and administrative aptitudes, etc. Thus, this paper proposes a multi-attribute gather decision-making (MAGDM) based scientific choice device to assist firms to judge which cloud computing merchant is more appropriate for their require by considering more comprehensive impact variables. It is contended that objective qualities, i.e., fetched, as well as subjective traits, such as TOE components (Innovation, Organization, and Environment) ought to be considered for the choice making in cloud computing administrations, [23]

Simple additive weighting method equipped with fuzzy ranking of evaluated alternatives , Concurring to the point of see of each appraisal run the show, any choice choice is evaluated through trapezoidal orchestrated feathery numbers (TrOFN). This approach is legitimized within the manner that a number of rules are phonetically evaluated. In this paper, choice choices are evaluated utilizing centered cushy Basic Added substance Weighting (OF-SAW) scoring capacity. The situating of alternatives can be characterized through a nonincreasing gathering of defuzzified upside of a scoring capacity. Any defuzzification framework ruins asked feathery numbers such that information on imprecision and heading is misplaced. This subverts the credibility of the chosen options' situating. The guideline inspiration behind this paper is to remain absent from the defuzzification organize within the OF-SAW methodology. In this way, the OF-SAW method is outfitted with soft scoring ask. This OF-SAW strategy is portrayed as a trade scoring system. We concentrate on an test outline of the OF-SAW application and r [24]

Selection of Outstanding Lecturers with Simple Additive Weighting Method , One of the components in the execution of Advanced education is an instructor or lecturer. Instructors are scholastic staff who are entrusted with doing the Tri Dharma of Advanced education which incorporates training, research, local area administration. Teachers who succeed are qualified for be chosen and get advancements and grants as indicated by their scholastic execution. Along these lines, we want an estimation strategy that can be utilized as a media for execution examination of exceptional speakers who can work with appraisal. This evaluation incorporates execution examination which incorporates responsibility, honesty, administration direction, discipline, participation, and initiative. Notwithstanding the rules, the appraisal additionally incorporates the Worker Execution Target (SKP) evaluation. This Representative Presentation Target is as an absolute evaluation of speaker execution. Two models, specifically execution and SKP will be utilized as rules in the computation of the determination of remarkable speakers. Tests were taken upwards of 20 teachers at the Sriwijaya State Buddhist School in Tangerang. The straightforward added substance weighting technique is successfully utilized in the choice of remarkable instructors with an appraisal breaking point of more than 0.88. Of the many up-and-comers, there were three teachers with adequate execution and SKP, with grades 0.922, 0.88, 0.94. So that the most elevated accomplishing teacher with the most elevated esteem is 0.94.[25]

2. Method
2.1 Research Stage
This research consists of several stages, including:
Analysis and system design: Analyzing the need for software functions required, including:
• Identification of problems, identify problems faced in making decisions on the recruitment of PT. Posweal Indomax.
• problem analysis, after identifying the problem, then an analysis is carried out in order to find a solution.
• literary analysis, looking for references to solve problems related to the research to be carried out.
• Design is the design of software that is carried out based on the data that has been collected in the previous stage and is represented in the form of a "blueprint" before coding begins. Includes input functions, process functions, and output functions.
• Algorithm implementation. At this stage, it discusses the implementation of the design, namely implementing simple additive weighting in determining decisions, designing system applications by writing program code and finally making improvements to the system.
- System testing and evaluation. This stage is taken to test and evaluate the system in order to find deficiencies in the system.
- Preparation of reports
2.2 Simple Additive Weighting

The SAW method requires the process of normalizing the decision matrix \((X)\) to a scale that can be compared to all existing alternative ratings. This method is a well-known and most widely used method in dealing with Multiple Attribute Decision Making (MADM) situations, a method used to find optimal alternatives to a number of alternatives with certain criteria [10]. The SAW method requires a decision matrix normalization process \((X)\) to a scale that can be compared with all available alternative ratings.

The following are the equations in the SAW method:

\[ r_{ij} = \frac{X_{ij}}{\text{Max}} \]  

\[ R_{ij} = \text{normalized performance rating value} \]

\[ X_{ij} = \text{attribute value that is owned by each criterion} \]

\[ \text{Max} = \text{the smallest value of each criterion} \]

Benefit = greatest value is best  
Cost = smallest value is best  
Where is the normalized performance rating of alternatives \(A_i\) on attribute \(C_j\); \(i = 1,2,\ldots, m\) and \(j = 1,2,\ldots, \)

\[ \sum_{i=1}^{m} \]

Information:

\[ V_i = \text{Alternative Final value} \]

\[ W_i = \text{weight that has been determined} \]

\[ R_{ij} = \text{Normalized matrix} \]

A larger \(V_i\) value indicates that alternative \(a_i\) is preferred.

3. Results and Discussion

3.1 Class Diagram

![Class Diagram](image)

Fig. 1. Class Diagram
In figure 1 is a Class Diagram image that has 6 tables consisting of login tables, applicant tables, criteria data tables, normalization matrix tables, ranking tables and selection tables. In the login table serves to be able to access the system by entering a username and password, the applicant table serves to integrate the applicant data by filling in some predetermined provisions, the criteria data table serves as a reference in the assessment of applicant competence, the normalization table serves to find out the best alternative results for the largest number of values, the ranking table serves to display the results of data input calculations according to criteria and tables. Selection serves to get candidates or prospective employees in accordance with the required qualifications.

3.2. Use Case Diagram

Use Case The diagram is a model for behavior (behavior) information system created. Use Case describes an interaction between one or more actors related to the information system that will be created.

![Use Case Diagram](image)

Fig. 2. Use Case Diagram

In figure 2 is a Use Case Diagram image, in the Use Case Diagram has 3 actors consisting of users, admins and managers. User actors can register or login, fill out the registration form for prospective applicants and can read messages and read the news delivered by the admin. Admin actors login, manage criteria data, manage user data, and manage news. While the actor manager can make a selection of the data of prospective applicants.

3.3. Implementation System

1. Login Menu

![Login Form](image)

Fig. 3. Log In Display

In Figure 3 the login form is a display to enter the application by inputting the username and password correctly. Then click login to enter the main page.
2. Home Page

![Home page image]

**Fig. 4.** Home page

Figure 4 is the main page when a user enters the new employee recruitment application system after entering the correct username and password in the login process.

3. Data Input page

![Data Input Display image]

**Fig. 5.** Data Input Display

Figure 5 shows input data, that is, applicant data is entered on this page.
On this page all the data that has been inputted will appear, according to the data entered on the data input page.

4. Normalization page

![Normalization page](image)

Fig. 7. Normalization page

On this page is the result of the multiplication of the matrix and the weights for each criterion, and the sum of the multiplication results to find out the best alternative results for the highest number of values.

5. Ranking

![Ranking page](image)

Fig. 8. Page Ranking

Figure 4.8 is a page showing the final result. The ranking is obtained based on the calculation of the input data, according to the criteria and weight.

4. Conclusion

The Decision Support System helps make decisions in the recruitment of prospective new employees at PT.Prosweal Indomax based on the results of the analysis according to the specified criteria. The criteria that have been determined in the interview selection stage are the latest education (C1), age (C2), expertise (C3), work experience (C4). The method used for decision support systems is Simple Additive Weighting (SAW).

Anti Aprianti et al. (Decision Support System For New Employee Recruitment In PT.Prosweal Indomax Using The Simple Additive Weighting)
This method was chosen because this method determines the weight value for each attribute, then it is followed by a ranking process that will select the best alternative. The research was conducted by looking for the weight value for each criterion, and making a ranking process that would determine the optimal alternative is the best applicant, and is entitled to be accepted as an employee because he passed the selection in order according to rank.

References


Anti Aprianti et al. (Decision Support System For New Employee Recruitment In PT.Prosweal Indomax Using The Simple Additive Weighting)


[17] Syafirda Hafni Sahir R Rosnowati Kresna Minan, Simple Additive Weighting Method to Determining Employee Salary Increase Rate, Ijrsr (2017) Available at: Google Scholar

[18] Aminudin NHuda MKilani A et al., Higher education selection using simple additive weighting, International Journal of Engineering and Technology(UAE), (2018), 7(2.27 Special Issue 27) Available at: Google Scholar


[22] Abadi SHuda MJasmi K et al. Determination of the best quail eggs using simple additive weighting, International Journal of Engineering and Technology(UAE), (2018), 7(2.27 Special Issue 27) Available at: Google Scholar

