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ACADEMIC STAFF PERFORMANCE EVALUATION BY AHP (ANALYTIC HIERARCHY PROCESS) AND SOFTWARE PACKAGE PREPARATION

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ABSTRACT

Performance evaluation is one of the important tools of modern human resource management. The evaluation of the employees in public and private sector is an important managerial process both for the employee himself and the organization itself. Performance management is a systematic management tool and used in organizations to show employees their potential, to motivate them. Performance management consists of shared goals, aims, assessment and motivation in order to get better results from the work of employees and teams.

Evaluation of academic performance in university is easier than to businesses. This measurement is used only for academic promotion. This situation leads to lowering of the academicians' performance after the academic promotion. Performance evaluation should be carried out continuously, the motivation of the academicians must be at the highest level.

In this study, it aimed to improve the efficiency of the academicians. Determination of performance criteria is the most important issue for the assessment of resources. Therefore, performance criteria are justly determined to cover the academic staff. A software has been developed to evaluate the performance of the academic staff under study. For this purpose, the program's rating system Analytic Hierarchy Process (AHP) was used. The software is written in Delphi programming language.

Key Words: Academic performance, Evaluate, Analytic Hierarchy Process (AHP), Software

1. INTRODUCTION

With the dominance of the ideas which bring human into the forefront in business, the emphasis on human resources is increasing day by day, and effective use of these resources is posing a significant problem for establishments.

This problem is a particular concern to top executives, who determine strategies and policies, and to other department managers, with whom they put these strategies into practice, because it is

necessary for establishments to have certain strategies and policies and to plan, program and apply activities related to human resources within the frame of these policies.

In the competition of reaching perfection, a measurement and control system, and the information gathered through this system come into prominence in order to see the current situation, to determine the customer satisfaction and to take precautions by finding out the standard deviations.

It is necessary to have the exact information on performance timely and perpetually to fulfill the managerial functions. Institutional entity depends on making right decisions at the right time. Right decisions can be made by means of right data. Well-defined performance measurements increase the total productivity and performance of the establishment by presenting what each personnel at each level is required to do in order to reach the goals.

Performance evaluation appears to be one of the most important methods that the human resources have in the line of human resources-productivity. According to some research among 437 establishments in the USA, the establishments that implement performance management are more successful at profitability (at the rate of approximately 200%) and per capita sales and productivity (at the rate of 50%) (Ozsahin, 2004).

Performance evaluation is important for strategy expression, problem and opportunity realization, effective resource allocation, good control and planning, organizational development and motivation. It is almost impossible to reach and keep high standards of quality and productivity without observing performances and changes.

One aim of performance evaluation practices, which are conducted with the purpose of providing a basis for promotion, education, transfer, dismissal, wage concession, and of being used in communication as a source of information, is to evaluate personnel's success and future potential. Moreover, by means of performance evaluation, the managers have the opportunity to know both their personnel and themselves better, and the personnel have the opportunity to learn what the managers think about them.

The status, improvement and success of the personnel are highly important for establishments. It is possible with the help of performance evaluation methods to discover and mend personnel's weaknesses, to develop their strengths and to lead them in line with the goals of establishments.

Nevertheless, the realization of the expected goals of performance evaluation depends on objectivity, consistency and regularity. A performance evaluation, which is not conducted well, has adverse effects on productivity and morale of the personnel.

Given the rapid developments in business life, establishments, which want to maintain their continuity, have to perform their administrative activities and operational functions more effectively and professionally by using information systems and technologies.

It is quite difficult to evaluate the performances of faculty members because their performance evaluation criteria are not presented entirely. There are some criteria that The Council of Higher

Education (YOK) defines for assignments of professor, associate professor and assistant professor. However, these are the necessary conditions for academic advancement.

It is impossible to think that academicians strive only for their own career. They improve themselves for the success of the institution they work for and for the students who are the most important shareholders and components of this success. In any case, they get this improvement's worth spiritually. However, it would affect the motivation and the dynamics in the university positively when the faculty members with high performance are awarded.

The computer program developed in the light of research cannot solve the problems completely but partially because the data entry in the criteria section of the program has been designed quite flexibly. Due to this program, universities can make a credible evaluation by putting forth their own performance criteria.

It has become inevitable for organizations to handle processes of human resources like performance evaluation in accordance with the necessities of ever-changing competition environment, and to look for different solutions like carrying them into electronic environment where they can derive profits such as speed, less effort and low cost.

Computerized performance evaluation systems offer various opportunities, which are impossible with classical methods, such as using all approaches together, making fast and fair evaluation whenever requested, building a database useful in many fields, monitoring the personnel continuously and many other opportunities for establishments.

Nowadays, computerized evaluation approach becomes the only option when the establishment is large-scale. Especially when management information and decision support systems are applied by means of computer software, it is required for performance evaluation systems to be electronic based, as well.

2. PERFORMANCE EVALUATION

Performance is a body of concepts that gain value either qualitatively or quantitatively as a result of planned activities intended for certain goals. Performance of an establishment can be defined as the evaluation of all the efforts that the personnel make to do what is necessary for work in realization of strategic, tactical and operational goals.

Performance evaluation can also be defined as a planned process that integrates individuals' success, attitudes and behaviors, moral conditions and characteristics, and that evaluates personnel's contributions to the establishment's success (Barutcugil, 2002).

Performance evaluation was once used as a means of comparison and control but nowadays, it is used for measuring the effectiveness of the personnel in the establishment, determining to what extent the management's requests are met, dealing with personnel's crucial matters like promotion, salary, education and keeping at the job (Yucel, 1999).

Evaluation comprises of defining the image of a feature with the help of feature categories, and of transforming the image into a numerical score in a previously-determined scale (Bektas, 1992).

Furthermore, it is possible to define evaluation as the process of making a value judgment about the measured feature by basing the measurement results on a certain scale system (Barutcugil, 2002; Canitez, 2000).

Performance evaluation is a process in which personnel's success is measured through comparison with previously-determined standards, and a planned tool which integrates and divides personnel's attitude and behavior, moral conditions and features into details, and which evaluates personnel's contribution to establishment's success (Sabuncuoglu, 2000; Eren, 1993).

In other words, performance evaluation is a dynamic system that offers the opportunity for cooperation and information exchange between personnel and manager, for education and development, and for sharing the responsibility in terms of either mistakes or successes.

Performance evaluation is actually a psychological need for individuals, and a motivational and success-related need for establishments (Barutcugil, 2002).

2.1. Aims of Performance Evaluation

Aims of performance evaluation can be divided into two groups:

1. Managerial aims (Barutcugil, 2002; William, 1999)
    - To set the environment that will offer the opportunity to measure success status of the establishment's various units and personnel,
    - To provide the necessary information and objective measures for taking managerial decisions related to personnel functions and applications such as placement, promotion, wage rise, incentive wage system, reward, punishment, position change and whether candidate personnel will keep working or not,
    - To contribute to set the necessary environment for integration of establishment's aims and needs with personnel's,
    - To gain confidential information about establishment's labour and management potential,
    - To gather information on establishment's general success status and problems, and to offer opportunity to make predictions about events that may appear in the future,
    - To offer opportunity to improve practices of more effective labour policy, plan and programs, wage systems, education and development programs, recruitment, selection and placement, promotion and reward etc.

2. Personnel Development Aims for the Future (Barutcugil, 2002; Bingol, 1998; Findikci, 1999)
    - To offer opportunity for personnel to learn about their success level, what their superiors think about and expect from them,

- To enable determination of personal goals, realization of accomplishments, to give the work a meaning, to meet individuals' needs for success, to increase satisfaction and motivation, to reduce job alienation, to remove the controversion between the goals of individual and establishment,
- To give personnel the chance to see their faults and weaknesses, and to rectify these with the help of education and development plans,
- To enable career planning practices that explain the personnel's future status in the establishment.

2.2. Advantages of Performance Evaluation

Individuals can develop special, performance-enhancing behaviours by gaining new features and skills after they start to work in an establishment; therefore, the management needs to see these features in time and to take incentive precautions. Moreover, it would be necessary to take certain precautions for those who make progress oppositely. Evaluation works give an objective scale, enable to decide who improves in which direction, and make it possible to compare personnel with each other.

Redetermination of basic wage for work groups, provision of extra income for personnel, rewarding of highly productive personnel, preparation of these personnel for new missions, plans to be prepared for arranging education and development programs, decisions related to other managerial operations generally depend on information acquired from performance evaluation. Use of knowledge affects personnel and their success in a corrective and constructive way, increases the productivity of establishment and personnel, strengthens team work, and helps managers evaluate their own performance.

Personnel have the chance to receive continuous feedback, by means of performance evaluation, to see to what extent they comply with the standards determined in job descriptions and job analyses. This feedback gives information to personnel about their performance level, offers opportunity to learn their superiors thoughts and expectations, to see their status in the establishment and to learn what they need to do, and to track their career within the organization.

Performance evaluation helps general objectives -determined by top management- and organization's strategic plans -conveyed to managers and subordinates who contribute to realization of these objectives- be realized in coherence with general aims by turning them into individual plans.

When performance is evaluated well, personnel know how they do their jobs and get rid of their concerns about work.

Performance evaluation results help the establishment determine how effective their function of recruitment and selection is.

The fact that performance evaluation practices provide the personnel and the establishment with feedback on work creates harmony in personnel behavior, enables personel development, and

encourages personnel to take responsibility. Feedback is very beneficial as long as it is provided in a positive way and supported with professional education (Moorhead and Griffin, 1989).

Performance evaluation practices pave the way for finding out the fields that the personnel, whose performances are lower than expected, need to develop, and for removing their faults and deficiencies (Canıtez and Solmus, 2000).

Realization of personnel strengths and weaknesses shows how to benefit from the personnel effectively in the future. Moreover, at the end of the evaluation, developmental needs to improve skills and educational needs to recover failures of personnel are determined, and the system is directed to future and organizational vision consistently.

Performance evaluation enables determination of personal goals, realization of accomplishments, the work gain a meaning; accordingly, it meets individuals' needs for success, increases satisfaction and motivation, reduces job alienation, and removes the controversion between the goals of individual and establishment (Dicle, 1982).

Performance evaluation strengthens the relationship between manager and personnel by enabling a strong, effective, duplex, meaningful and balanced communication, and helps build strong and healthy relationships in the establishment. Personnel have the chance to discuss their own objectives and standards in the stage of planning, and to join the process with new ideas to be compromised with the managers, so that they will know how to do their job and how to contribute to the result, and this helps them canalize their strengths on the beam. Thus, personnel improve and control themselves, and realize their responsibilities so that their task identities grow stronger (Canman, 1993: 35–36).

It also enables the effectiveness of the establishment to be determined as a whole because individual performance levels will be determinant of the establishment performance (Trahant and Koonce, 1997: 299–301).

Personnel participation in organizational decisions enables personnel to show positive attitudes towards work instructions and to adjust to managerial aims. It makes personnel more productive and eager.

Tracking and evaluation of personnel in service at different times inform the management whether the most appropriate individual is selected for the job or not and whether the recruitment method is suitable and it meets the establishment's requirements or not (Tutum, 1976: 168; King, 1984).

Performance evaluation is a source for management's information system. In addition, it helps the control of human resources systems and makes it possible to track the objective attainment level of the establishment in different units.

2.3. Usage areas for performance evaluation

- Practices of restructuring mission definitions, and promotion and level discount for the personnel with the most common area of usage,
- Decisions of warning and dismissing personnel,

- Determination of individual and organizational needs of education and development,
- Activities that increase coordination and reduce hierarchy between managers and personnel,
- Works that support performance development by communicating with personnel, (Barutcugil, 2002; Bingol, 1998; Izgoren, 2000)
- Personnel Evaluation and Strategic Planning (Uyargil, 1994)
- Work Coordination (Erdogan, 1991)
- Wage and Premium Works
- Career Planning
- Planning of Labour Resources (Naurayi and Daroca, 1996)
- Professional Development
- Personal Development (Cleveland et al., 1989)

2.4. Performance Evaluation Methods

1. Graphic rating method
2. Scoring method
3. Grading method
4. Checklist method
5. Forced choice method
6. Score allocation method
7. Behavioral evaluation method
8. Paired comparison method
9. Critical event method
10. 360 Degree evaluation system

2. MATERIALS VE METHODS

2.1. Materials

In the preparation of this study, most of the criteria prepared by The Council of Higher Education for Associate Professorship were used as materials, and in the writing process of the software, Delphi Programming Language was used.

When the firm called Borland –now Inprise- realized the importance of visual programming languages after Pascal 7.0 and started to study a new language called Visual Pascal, there was only Visual Basic (VB) as a visual programming language. Even if VB was called as a visual programming language, it was not accepted as expected. To differentiate Visual Pascal - developed by Borland- from Visual Basic, its name was changed as DELPHI which was the name during the design phase (Demirel, 1999).

Delphi, which won the recognition of programmers in a short time, became their favourite as a visual programming language because it enabled rapid application development, and provided

opportunities for subjects of desktop, database applications, Internet and Windows programming (Karagulle and Pala, 2001).

2.2. Methods

2.2.1. Performance Criteria

Even though the studies on this topic are inadequate in our country, some universities evaluate the academic personnel with their own criteria, announce the results and inform the personnel at the end of the year. Moreover, some universities reward their high-performanced faculty members. Karadeniz Technical University, Kirklareli University and Sakarya University can be given as examples.

We are of the opinion that the evaluations made only by looking at the number of national and foreign publications will not be credible. In a related doctoral thesis, a multidimensional evaluation was made by looking at the criteria below (Figure 1) (Kaptanoglu and Ozok, 2006).

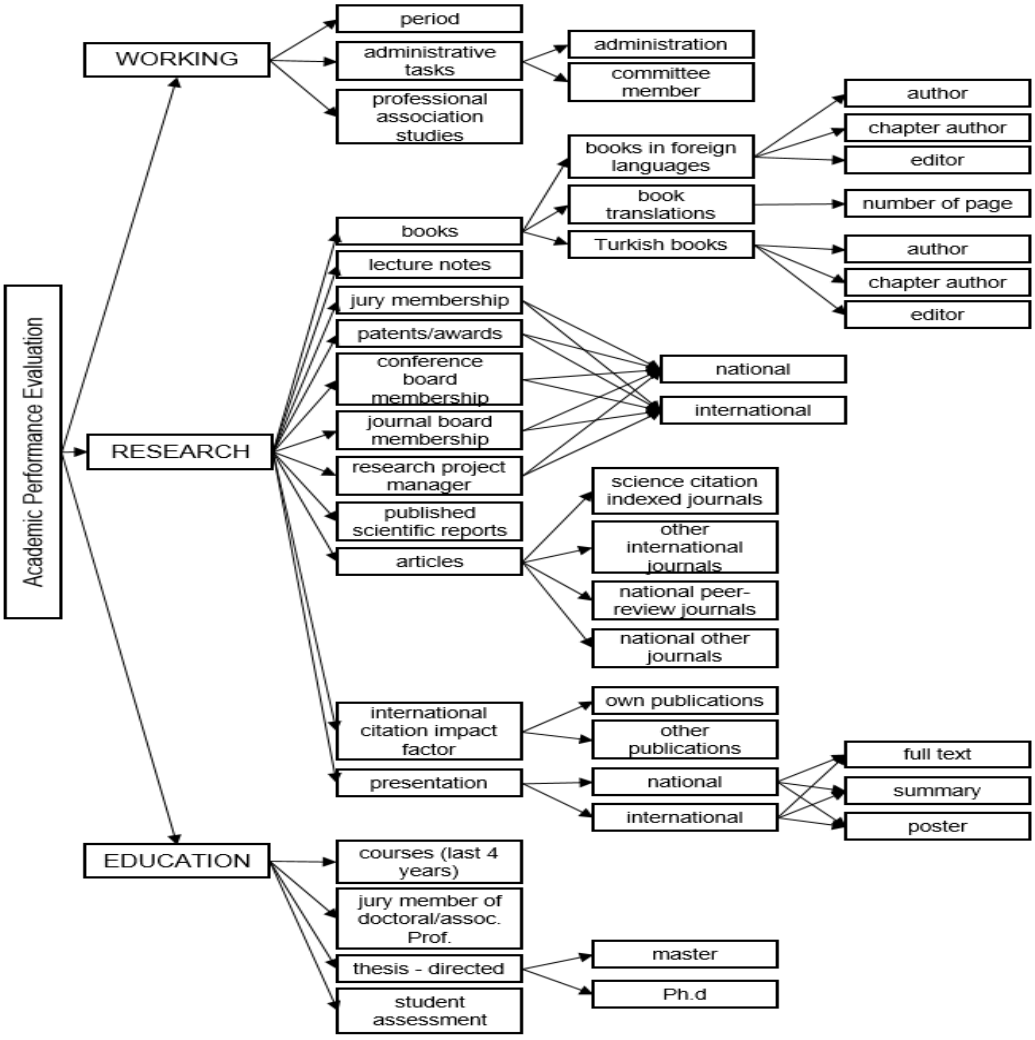

Figure 1. The hierarchy of academic performance evaluation criteria (Kaptanoglu and Ozok, 2006)

Furthermore, similar criteria were presented in a different study (Aktan, 2007).

The common problem of all the studies on academic performance evaluation has been the fact that concrete criteria cannot be determined and stated explicitly.

In this study, a database was built as a method first. Then, for the criteria required to be in the database, fields were built for faculty member information and evaluation results.

Academic Member Identification Card

While determining the performance criteria (Table 1), only Professors, Associate Professors and Assistant Professors were taken into consideration. The same criteria need to be prepared for Teaching Assistants, Research Assistants, Instructors and Experts.

Table 1. Performance Criteria for Sample Solution

Performance Criteria	**Number**	**Points**
Papers presented and published in the Proceedings of National Conferences	1	4
Papers presented and published in the Proceedings of International Conferences	1	8
Presented posters in national scientific meetings	1	3
Presented posters in international scientific meetings	1	6
Paper presented at national scientific meetings	1	3
Paper presented at international scientific meetings	1	6
Articles published in national peer-reviewed journals	1	10
Articles published in international peer-reviewed journals	1	20
Articles published in international peer-reviewed journals (SCI & SSCI & Arts)	1	30
Books	1	5
Lecture Notes	1	2
Lecture Hours in Week	1	1
Master Thesis – Directed	1	1
PhD. Thesis – Directed	1	1,5
Completed Projects as a Coordinator	1	5
Completed Projects as a Researcher	1	2
Science Awards	1	2
Special Awards	1	1
The tasks assigned by the Administration	1	1
Administrative Tasks – Dean	(Monthly)	10
Administrative Tasks – Associate Dean	(Monthly)	5
Administrative Tasks – Head of Department	(Monthly)	5

Administrative Tasks – Vice Chairman	(Monthly)	1
Administrative Tasks – Rector	(Monthly)	30
Administrative Tasks – Vice-Chancellor	(Monthly)	15
Administrative Tasks – Director of the Institute	(Monthly)	10
Administrative Tasks – Deputy Director of the Institute	(Monthly)	5
Administrative Tasks – Vocational School Director	(Monthly)	8
Administrative Tasks – Deputy Director of Vocational School	(Monthly)	4
Administrative Tasks – Others	(Monthly)	1

2.2.2. Analytical Hierarchy Process

The Analytic Hierarchy Process (AHP) is a multi-criteria decision making method that helps the decision-maker facing a complex problem with multiple conflicting and subjective criteria (for example location or investment selection, projects ranking and so forth). AHP is a mathematical method considering group and individual priorities, and evaluating the quantitative and qualitative variables together in the course of decision making. Several papers have compiled the AHP success stories in very different fields (Zahedi, 1986; Golden *et al*, 1989; Shim, 1989; Vargas, 1990; Saaty and Forman, 1992; Forman and Gass, 2001; Kumar and Vaidya, 2006; Omkarprasad and Sushil, 2006; Ho, 2008; Liberatore and Nydick, 2008).

The use of personal judgments for the decision making problems has increased on a remarkable scale recently. The opportunity for recognition of their own decision making mechanisms have been tried to be offered considering the observations of the decision makers in different psychological and sociological situations through AHP. It has been aimed with this method that decision makers will be able to make decisions more effectively (Saaty, 1980). This method has attracted considerable attention and has been applied for the solution of most decision making problems in real life.

Determining the factors and sub-factors is the first step in AHP in line with the purpose of the decision maker. Initially, the purpose is set in AHP, and the factors influencing the purpose in line with this purpose are tried to be determined. In this stage, a survey study and opinions of the experts in this area could be asked and applied to specify all the factors influencing the purpose in line with this purpose.

Psychologists argue that it is easier and more accurate to express one's opinion on only two alternatives than simultaneously on all the alternatives. It also allows consistency and cross checking between the different pairwise comparisons. AHP uses a ratio scale, which, contrary to methods using interval scales (Kainulainen *et al*, 2009), requires no units in the comparison. The judgement is a relative value or a quotient a/b of two quantities a and b having the same units (intensity, meters, utility and so on). The decision-maker does not need to provide a numerical judgement; instead a relative verbal appreciation, more familiar in our daily lives, is sufficient.

Dual comparison decision matrixes are formed in order to determine the significance levels between each other after specifying the purpose, factor and sub-factors. While forming these matrixes, 1-9 significance scale by Saaty (1980) is used. On condition that the decision made at the end of the study is influential for most people, dual comparison decision matrixes are formed by integrating the judgments of different people. A plenty of researchers recommend the use of geometric average method in this integration process so as to obtain consistent dual comparison matrixes (Tam and Tummala 2001). 1-9 significance scale suggested by Saaty provides the best results. The other significance scales such as 1-5, 1-7, 1-15 and 1-20 fail to find out the appropriate solution. The significance scale values and meanings are explained in Table 2 (Saaty 1980). The formation of dual comparison decision matrixes is the most important stage of AHP. According to the data by dual comparison decision matrixes, the judgments are converted into a matrix in AHP. If *aij* is indicated as dual comparison score of *i.* and *j., aij* value is obtained from *1/aij* equivalence. This characteristic is called correspondence (Saaty 1999). After creating dual comparison decision matrixes, the following step is to calculate the priorities or weight vectors. The eigen values and eigen factors of the comparison matrix help to determine the priority order according to AHP methodology The eigen vector corresponding the highest eigen value identify the priorities. If the maximum eigen value of matrix A is taken as λenb, the priority vector W $(A-\lambda enbI)\ W=0$ is found via the solution of the equations system. However, calculating the eigen values and the eigen vectors of this equations system is very complicated and time-consuming for especially large-scale matrixes (n>5).

Table 2. Superiority values used in AHP Methodology

Value	**Definition**	**Explanation**
1	Equal importance	Two factors are equally important
3	Moderate importance	Experience and judgment slightly favor one over the other
5	Strong importance	Experience and judgment strongly favor one over the other
7	Very strong importance	One factor favors over another
9	Extreme importance	The evidence showing one factor favoring over the other has a high reliability
2,4,6,8	Intermediate values	The values between two successive judgments to be used when compromise is necessary

In practices, methods that are easier to calculate and that give approximate results instead of the solution of the equation system above are preferred (Saaty 2000). A common technique used for calculation of the priority vectors is like this: Normalized matrix is attained by dividing each

column value into related column total respectively, and based on the normalized matrix, the mean of each sequence value is calculated; and these values are the importance weights for each criterion and with these weights, priority vector is formed.

In conclusion, weight vectors and doubly prepared matrices are multiplied to get the payoff matrix. Consequently, the most appropriate alternative for the determined criteria is selected and the goal is achieved.

3. FINDINGS

The main menu of the program consists of six sub-menus (Figure 2). In the first section, there is general information about the personnel, and it is possible to enter the activities they have done according to the determined criteria, and to search personnel and track their performances over years in this menu.

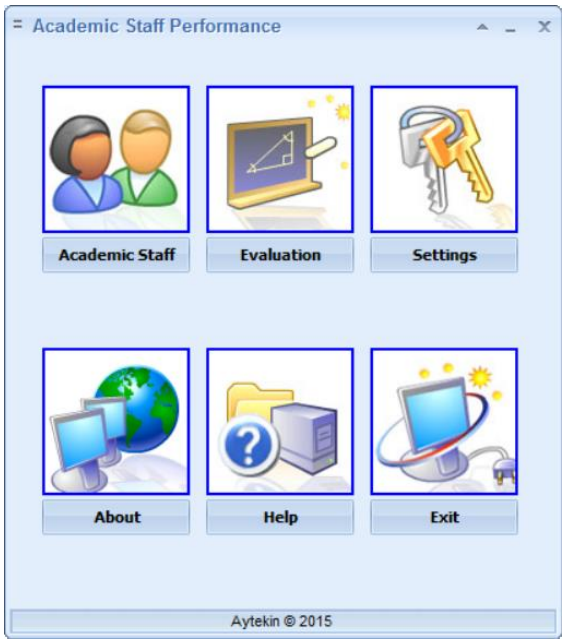

Figure 2. Main menu of the program

In the evaluation menu, scores are calculated according to titles, departments and faculties, and reflected on the screen.

In the settings menu, determined criteria, scores given to each criterion, faculties and departments are introduced.

In the program menu, there is information about the program and its developers.

In the help menu, information about the use of the program is given. Finally, the last menu is used to exit the program.

The academic personnel data used as samples here are not real; they are just randomly given to introduce the program.

3.1 Personnel Menu

In the personnel menu, it is possible to keep track of the present personnel as well as saving new personnel to the file (Figure 3). When clicked on the "New" button, a personnel space is formed, and it is expected from the user to enter the data about the personnel. These data are personal information about the personnel given in the method section. With the "Save" button, given data are saved to the file. "Delete" button is used to remove the active personnel from the file. In order to open the personal performance track window, "Performance" button should be clicked on, and to return to main menu, "Main Menu" button should be used.

In order to find the personnel to be tracked, their names are written in the search box. As each letter is written, all the personnel names starting with those letters are listed in a box below.

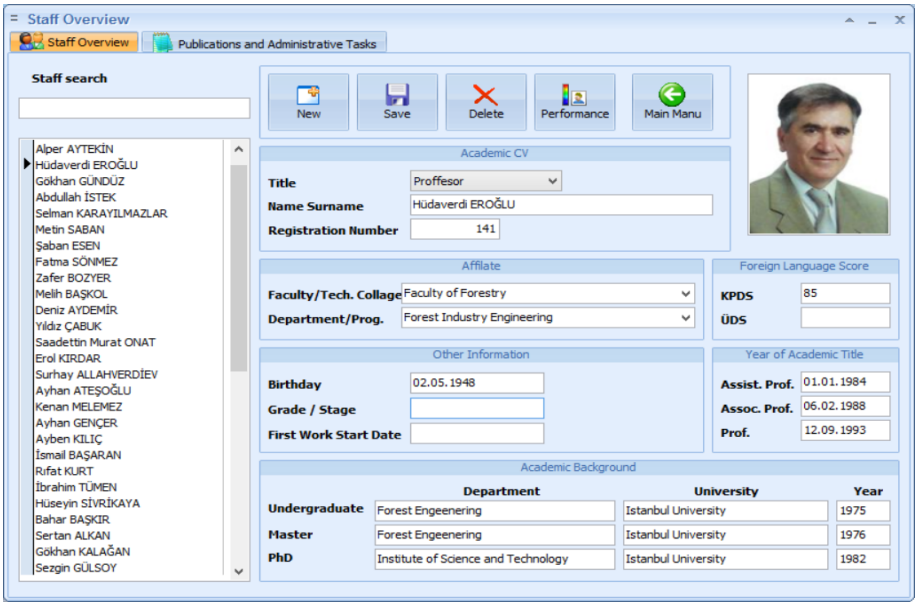

Figure 3. Personnel general information window

In order to save the annual works of personnel to the database, a personnel record should be made first. When scientific publications and administrative functions tab is clicked on, the window in Figure 4 is seen on the screen.

If a new study or administrative function is to be recorded in this window, "New" button is clicked on. The user fills the text boxes of year, number, publication/administrative function and its definition, and clicks the "Save" button.

Each saved datum is listed in the box on the left. The data can be activated on the left box by being clicked on. It is possible to make and save changes on the data entry boxes on the right.

Furthermore, to delete an unwanted datum, it is activated on the left box, and then “Delete” button is clicked on. “Main Menu” or “Personnel General Information” buttons can be clicked on to return to personnel information window.

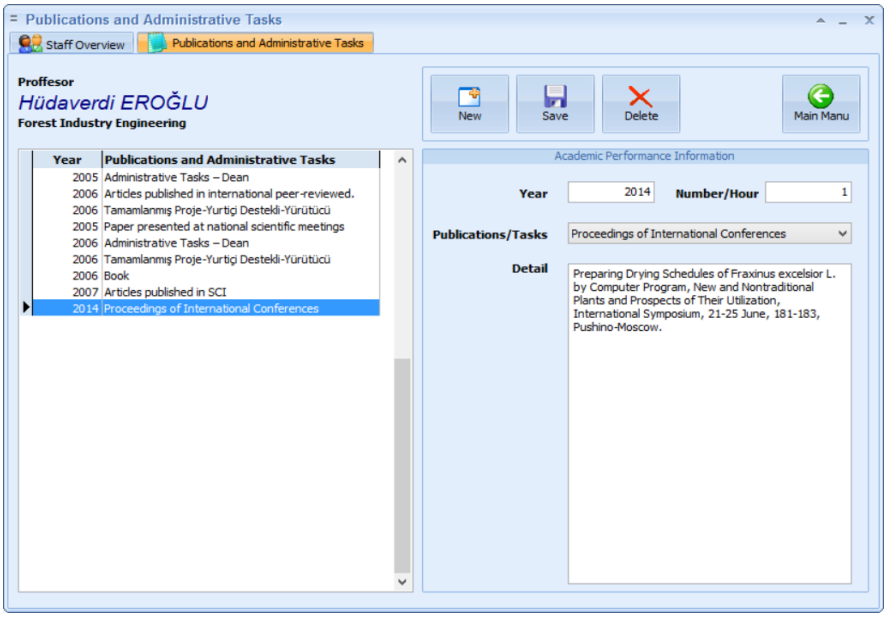

Figure 4. Scientific publications and administrative functions window

When the “Performance” button is clicked on in the Personnel General Information window, the “Private” tab comes to screen (Figure 5). In this tab, presently active personnel’s all works are shown annually in a column chart.

In order to see this information on the screen, it is necessary to enter the personnel data of publication/administrative function.

“Main Menu” button should be clicked on to close this tab and to return to Personnel General Information window.

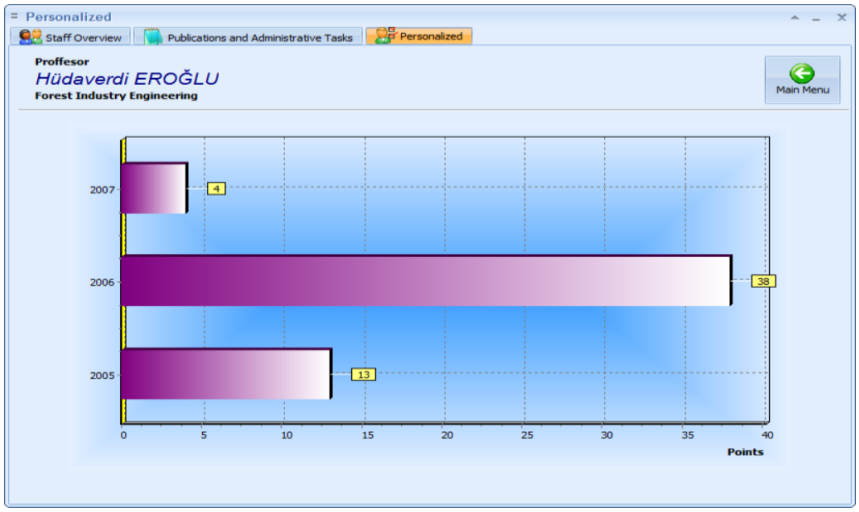

Figure 5. Private performance tracking window

3.2 Evaluation Menu

Evaluation menu constitutes an important part of the prepared package. Analysis of the data entered so far, calculation of the scores and ranking of the academic personnel performance scores from the highest to the lowest, and presenting them as a list are made in this menu.

After the data of the all personnel, whose performances are to be evaluated, are entered, it is necessary to indicate the year of performance to be evaluated from the “Select the year” section. If it is required to evaluate all the registered personnel, “All Faculty Members” should be selected from the opening box in the Titles section (Figure 6), and “All Faculties/Vocational Schools” should be selected from the Faculty/Vocational School section (Figure 7).

After that, performance scores of all personnel in the indicated year are calculated when the “Evaluate” button is clicked on. These scores are listed in the next box ranked from the highest to the lowest.

If a ranking among only professors or associate professors or assistant professors is requested, the title should be selected from the Title section.

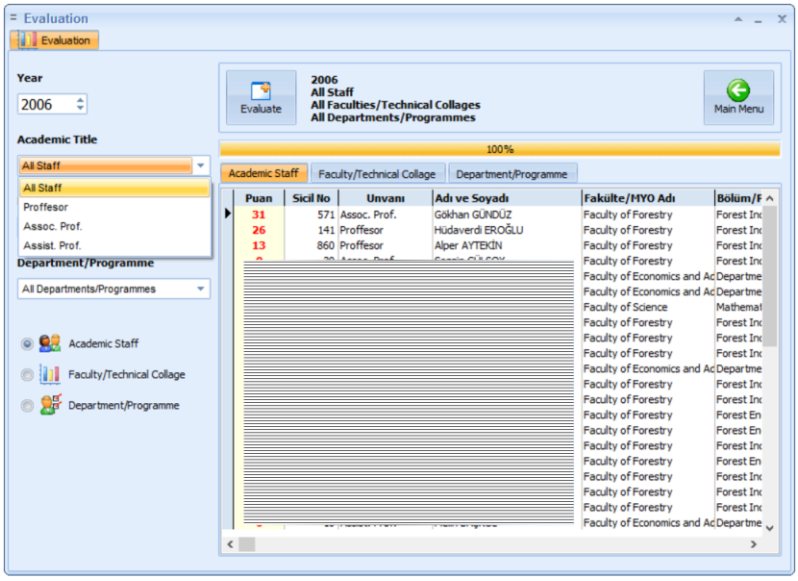

Figure 6. The window where the evaluation and comparison are made

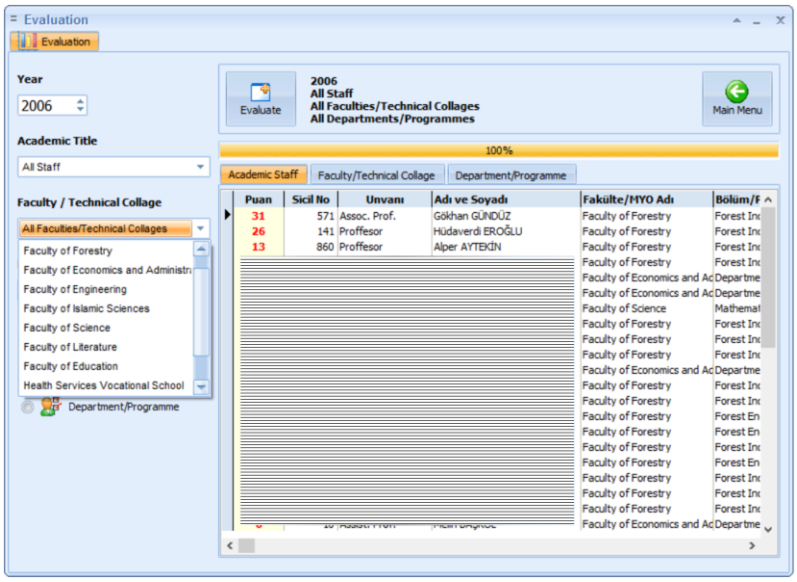

Figure 7. Choosing the faculty/vocational school in the evaluation process

In addition, an indicated faculty in itself or academic personnel in a department in themselves can be subjected to performance measure and evaluation. It is also possible to make measurements and comparisons of performance among departments in the university (Figure 8).

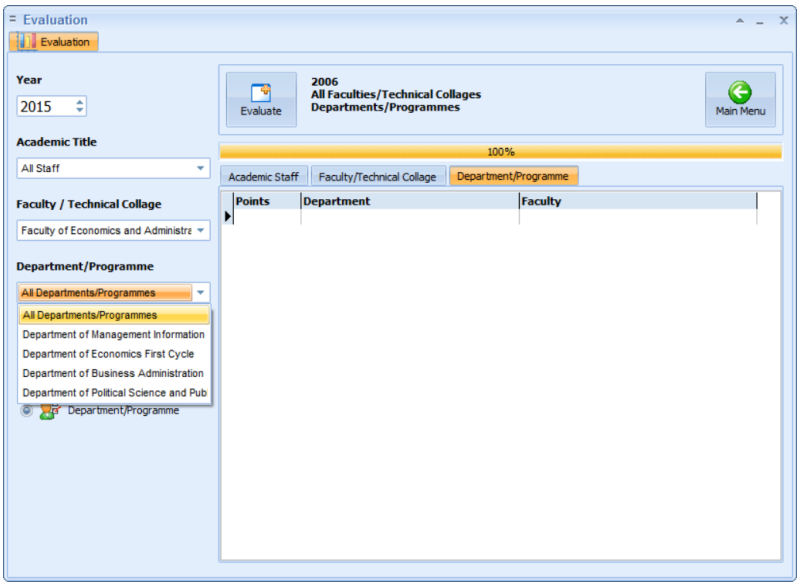

Figure 8. The window of comparison among departments in the process of evaluation

3.3 Settings Menu

Settings menu is another important menu of the program. There are performance criteria determined before, faculties and vocational schools within the university and their departments

and programs in this menu (Figure 9). If these data are not entered, the program does not function because it lacks the necessary database.

In this window, performance criteria are listed in the first box on the top-left. To save data to this section, it is necessary to click on the "New" button on the right of the box. Performance criteria and their scores should be written in the text boxes appeared below. After that, "Save" button is clicked on so that the data entry is completed. In order to reorganize any criterion, it should be selected from the box on the left, then reorganized and saved in the entry boxes on the right.

Faculty and vocational school entry can be made in a similar way. However, the point to take into account here is that the faculty to which the department entry is to be made should be selected from the list above. New departments are saved to a database under the selected faculty. Deletion and correction are also made in a similar way. It would be enough to click on any "Main Menu" button to close this window and go back to main menu.

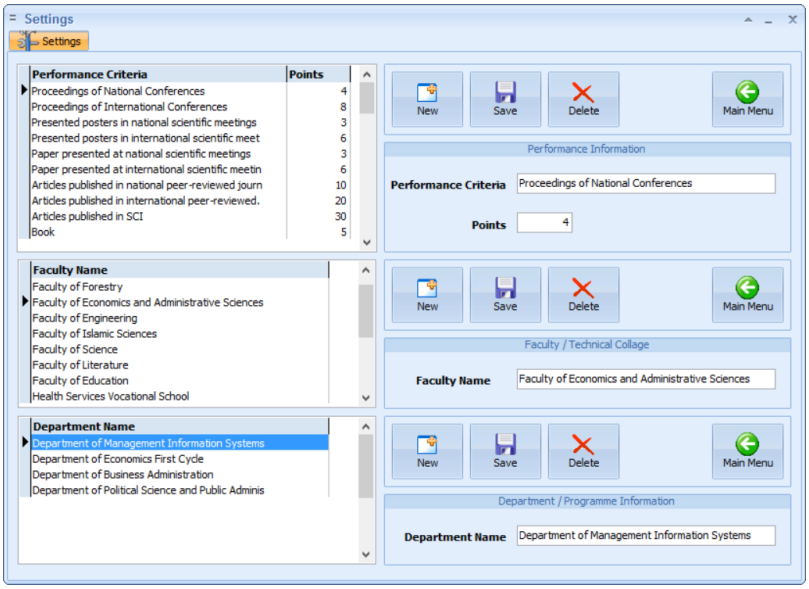

Figure 9. The window where the performance criteria and faculty/department data are entered

RESULTS

If the universities make good use of performance evaluation, it will provide them with important added value.

Universities develop their Strategic Planning and Annual Work Plans in a meticulous and participative way by entering in the process of systematic and regular planning because they will give feedbacks in accordance with the determined aims, and thesefeedbacks will have a reward connection.

First of all, institutional strategic planning process including university's shared values, main goals, strategies and long-term strategic objectives should be made so as to apply the sysem successfully.

In the next step, these fields and objectives at the institutional level should be degraded into departmental or individual levels in their totality.

While applying this system, critical business and management processes should be focused on, and institutional, departmental and individual objectives should be associated with each other with the performance indicators of critical subprocesses.

Many institutions are looking for ways to increase institutional performance in the competition environment which is getting more and more difficult these days. Therefore, they focus on human resources applications that will increase personnel performances and accordingly the productivity of processes.

Determination of performance criteria is the most important subject in the evaluation of human resources to increase the productivity. Performance criteria need to be determined fairly and in a way that will involve all academic personnel and make correct measurement.

These are the advantages of the performance measurement system for the university and academic personnel:

1. How much the personnel work and produce will be presented.
2. It will make the academic personnel, who move away from the universities and their own objectives, focus on these objectives again.
3. A confidential personnel database will be built.
4. It will be easy to reach the data about the personnel.
5. It will be possible to make comparisons between faculty/vocational school, department and personnel so that each unit can be evaluated in itself.
6. It will increase the in-house competition on the basis of unit and individual.
7. Building a fair evaluation system with the particularity of the determined criteria, and the personnel's belief in this will increase trust in the institution.
8. Each unit's and personnel's performance will increase in a competitive way.
9. It will contribute to university's performance in a positive way with all the given advantages.

On the other hand, some problems may appear during the application of the system. Here are the problems and solutions:

It may be irritating that an assistant professor or associate professor has a higher score than a professor, and takes place at the top. It may pose a problem in the ethical sense. To solve this problem, each title can be evaluated in itself and have its own ranking list.

In order to clear the air to understand whether the scoring is fair or not, the institution should be transparent, and everyone should have the chance to reach the performance information of faculty members.

It can be a problem that academic personnel, who have administrative functions, such as Rector, Dean, and Department Head take place at the bottom in the ranking as they do not have time for

their own studies. Therefore, they can be exempt from the evaluation of their own free will in order to prevent a problem.

To get low scores and to be uncovered in public may lead some academicians to lose their motivation. In order to stop this, it is enough to announce the first 3 or 10 people so that it will be like a competition among the personnel to place in the first 3 or 10.

All in all, it is certain that successful results will be obtained when a performance system related to institution's strategies and objectives in the long run is spread to all levels of the institution through an effective communication management.

This study is prepared only for academic members so it would be helpful to determine the performance criteria of other academic members like teaching assistants, research assistants, instructors and experts.

REFERENCES

Aktan, C. C., (2007) "Academic Performance Evaluation System (APES) Proposal", http://www.canaktan.org/egitim/universite-reform/apds-sistemi.htm.

Barutçugil, İ. (2002) "Performance Management", Career Publications Contact Education Services Limited Co., March, İstanbul.

Bektaş, K. (1992) "Achievement Appraisal Systems, Some Problems and Solutions of the Application Encountered", Verimlilik Journal, Number: 3.

Bingöl, D. (1998) "Human Resources Management", Beta Publications, 4th Edition, İstanbul.

Canıtez, A.B. ve Solmuş, T. (2000) "Performance Evaluation", The Turkish Psychological Bulletin, Number:16–17, page 108-112, Mart-Haziran.

Canman, A.D. (1993) "Contemporary Approaches in evaluating staff and Evaluation of Turkey Public Employees", Public Administration Institute for Turkey and the Middle East (TODAIE) Publications Number: 252, Ankara.

Cleveland, J.N., Murphy K.R. and Williams R.E. (1989) "Multiple Uses of Performance Appraisal, Journal of Applied Psychology", Vol.74, No: 1, pp. 130–135.

Demirel, Ö. F. (1999), "[F1] Delphi", Infogate, İstanbul.

Dicle, Ü. (1982) "Evaluation of managerial success-Turkey Application", Middle-East Technical University, Faculty of Administrative Sciences, Publication Number. 43, Ankara.

Erdoğan, İ. (1991) "Personnel Selection and Evaluation Techniques for Success in Business", Faculty of Business Publication No: 248, Institute of Business Administration Publication No: 141, İstanbul.

Eren, E. (1993) "Psychology of Management", Beta Publications, İstanbul.

Fındıkçı, I. (1999) "Human Resource Management", Alfa Publications, November, İstanbul.

Forman, E. and Gass, S. (2001) The analytic hierarchy process – An exposition. Operations Research 49(4): 469–486.

Golden, B., Wasil, E. and Harker, P. (1989) The Analytic Hierarchy Process: Applications and Studies. Heidelberg, Germany: Springer-Verlag.

Ho, W. (2008) Integrated analytic hierarchy process and its applications – A literature review. European Journal of Operational Research 186(1): 211–228.

İzgören, A.Ş. (2000) "Business Life 100 Kangaroo", Academy Plus Publications, Ankara.

Kaptanoğlu, D. and Özok, A. F., (2006) "A fuzzy model for academic performance evaluation", Istanbul Technical University, Engineering Journal, 5 (1): 193-204, February, İstanbul.

Karagülle, İ. and Pala, Z., (2001) "Borland Delphi 5", Türkmen Press, Publicaton No: 184, İstanbul.

Kainulainen, T., Leskinen, P., Korhonen, P., Haara, A. and Hujala, T. (2009) A statistical approach to assessing interval scale preferences in discrete choice problems. Journal of the Operational Research Society 60(2): 252–258.

King, P. (1984) Performance Planning and Appraisal, McGraw-Hill Book Co., New York.

Kumar, S. and Vaidya, O. (2006) Analytic hierarchy process: An overview of applications. European Journal of Operational Research 169(1): 1–29.

Liberatore, M. and Nydick, R. (2008) The analytic hierarchy process in medical and health care decision making: A literature review. European Journal of Operational Research 189(1): 194–207.

Moorhead, G and Griffin, R.W. (1989) "Organizational Behavior", Haughton, Mifflin Comp., pp. 601-607, Boston.

Nourayi, M.M. and Daroca, F.P. (1996) "Performance Evaluation and Measurement Issues", Journal of Managerial Issues, Summer, 8(2): 206–217.

Omkarprasad, V. and Sushil, K. (2006) Analytic hierarchy process: An overview of applications. European Journal of Operational Research 169(1): 1–29.

Özşahin, Ş., (2004) "Computer Programs Preparation for Business in Performance Measurement and Control", Ph.D. dissertation, Institute of Science, Zonguldak Karaelmas University, Zonguldak, Turkey.

Saaty, T. and Forman, E. (1992) The Hierarchon: A Dictionary of Hierarchies. Pittsburgh, PA: RWS Publications.

Saaty, T. (1980) The Analytic Hierarchy Process, McGraw-Hill International Book Company, USA.

Saaty, T. (2000) Fundamentals of Decision Making and Priority Theory, RWS Publications, Pittsburgh, USA.

Sabuncuoğlu, Z. (2000) "Human Resources Management", Ezgi Press Publications, Bursa.

Shim, J. (1989) Bibliography research on the analytic hierarchy process (AHP). Socio-Economic Planning Sciences 23(3): 161–167.

Tam, M.C.Y., Tummala, V.M.R. (2001) An Application of the AHP in Vendor Selection of a Telecommunications System, The International Journal of Management Science, 29(2), 171-182.

Trahant, B.B. and Koonce, R. (1997) "12 Principles of Organizational Transformating", Management Review, Vol.86, No: 8, September.

Tutum, C. (1976) "Personnel Management", Public Administration Institute for Turkey and the Middle East (TODAIE) Publications Number: 148, Sevinç Press, Ankara.

Uyargil, C. (1994) "Performance Management System in Enterprises", Istanbul University, Faculty of Business Publication No. 262, Institute of Business Administration Publication No: 154, İstanbul.

Vargas, L. (1990) An overview of the analytic hierarchy process and its applications. European Journal of Operational Research 48(1): 2–8.

William, J. S. (1999) "Production Operations Management", Sixth Edition, Irwin, McGraw-Hill, USA, 1999, pp.320.

Yücel, R. (1999) "Human Resource Management Performance Assessment", Dokuz Eylül University, Journal of the Institute of Social Sciences, Volume 1, Issue 3, p. 110-128.

Zahedi, F. (1986) The analytic hierarchy process: A survey of the method and its applications. Interface 16(4): 96–108.