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Identifying and Ranking the Criteria for Evaluating the Performance of Azad University Faculty Members by the Analysis Network Process Method

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Abstract

The main purpose of this study is to identify and rank the criteria for evaluating the performance of Azad University faculty members using the Analysis Network Process method. The research method is mixed. The sample size of the qualitative section was 15 managers of departments who were purposefully selected by theoretical sampling strategy. Data collection was a semi-structured interview. The data obtained from the analyzed interviews were coded using the Grounded theory. Its validity and reliability were checked and confirmed using the results of three-way consensus. Data analysis was performed in three stages of open, axial, and selective coding. In open coding, concepts and cues were extracted from the interviews. In the selective coding stage, three categories (training, research, consulting services) were compressed and considered as the main dimensions of performance evaluation, and then four sub-components were conceptualized for each dimension. A total of twelve categories were conceptualized and then the dimensions and components were ranked using super design software. The sample size was a quantitative section of 30 faculty members who were randomly selected and the tool for collecting quantitative findings was a researcher-made questionnaire. It was an Analysis Network Process. Findings showed: The factors of consulting services, research and education are in order of priority. In education, respectively, components of teaching quality, spiritual competence, psychological competence and managerial competence, in research, respectively, components of communication competence, competence of new technologies, competence of innovation and creativity, entrepreneurship and cognitive competence. Intercultural competence, foreign relations competence, and the most and least important in the group that experts can use the above dimensions and components in evaluating the performance of faculty members.

Keywords: Standard, Performance, Faculty Members, Analysis Network Process

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Introduction

Authorities and policy makers effective in evaluating the performance of academic faculty members of Azad University are searching for better and more effective methods and systems to evaluate the performance of faculty members because most of the internal regulations of the Ministry of Science include guidelines for promotion, promotions and incentives and academic stagnation and the quality of educational evaluation of faculty members. It aims to quantitatively evaluate the teaching and research of faculty members and is mostly based on essays, while the performance competencies of faculty members have received less attention. In Article 27 of the National Management Law, the executive bodies are required to formulate their service delivery standards and inform the public in different ways. For several years, service standardization has been considered as one of the performance evaluation indicators in the performance evaluation system of executive agencies. (Sadeghi, Ibrahim; Sadeghi Yazdanabad, Mohammad, 2014).

Standardization and emphasis on the implementation of standards have always been the focus of most managers, practitioners and university planners. To establish a performance management system, the organization's mission or mission and its strategic goals must be considered. Then you should focus on jobs. Job analysis, in which the main components of the job are determined, is a prerequisite for performance management. Then you can determine what knowledge, skills and abilities are required for the job (Gholipour, Arian; Mohammad Esmaili, Neda , 2018).

The lack of standards of expectations and evaluation criteria and the lack of performance agreement between the appraisee and the appraiser on indicators and standards and, in fact, minimums to satisfy the stakeholders of the performance of faculty members resulting in the inability to design a comprehensive evaluation system (lack of an integrated system of performance standards for faculty members) Is. Among the problems that usually hinder the effectiveness of most evaluation systems (Saadat, Esfandiar, 2018).

Formulating appropriate criteria and indicators and improving the content quality of university internal regulations will lead to the improvement of the scientific and research performance of thinkers and elites of the society, and as a result, it will improve the academic position of the country in competition with the prestigious universities of the world (Soleimani, Maryam, 2016).

The framework, or competency models are tools for determining the indicators and expectations of a job. A competency model is a descriptive tool that identifies the knowledge, skills, abilities, and behaviors needed to function effectively in an organization (Farhadinejad, Mohsen, 2013).

Therefore, this research seeks to answer the question: What are the criteria for evaluating the performance of Azad University professors?

Since reputation is one of the sources of knowledge, the findings of previous researchers have been used to identify the dimensions of professors' performance evaluation criteria, some of which are mentioned:

Jawdani, Mohammad; Heydari Naqdali, Jila; Anari Nejad, Abbas (2018) in a research titled "Design and Validation of the Model of Professional Competencies of Farhangian University Faculty Members" reached these results that: the professional competency model of Farhangian University faculty members consists of 3 factors (1 - Knowledge professional 2-professional skills 3-professional ethics) and 11 criteria (1-content knowledge 2-content teaching knowledge 3-research knowledge 4-organizational knowledge 5-technology knowledge 6-teaching skills 7-research skills 8-technology skills 9-communication skills 10-Individual ethics, 11-Organizational ethics and 62 indicators. This model can be used as a framework and basis for recruitment, professional development and evaluation of professional competences of faculty members of Farhangian University of Iran.

The results of Khajouinejad (2018) in "Identification of the components and dimensions of the professional competence of education experts in higher education centers and institutions (case study: Shahid Beheshti University)" indicated that the professional competence of an education expert consists of four dimensions; Professional competence: with 3 components, general competence: with 3 components, managerial-organizational competence: with 6 components, and personality-social competence: with 4 components. In addition to that, 7 basic requirements and solutions include; Evaluation and feedback mechanism, training and development programs, job justifications, symbolic management, reward system, punishment and promotion according to performance, facilities and services inside and outside the organization, interaction-oriented and collaborative organizational culture, in order to shape and develop the job competencies of the education expert were identified. . Therefore, it is necessary for the academic management and especially the resource

management of Shahid Beheshti University to pay attention and take action in the programs of recruitment, training and development, and retention of educational experts to job competencies, the comprehensiveness of competencies, the relationship between them, the requirements of their formation and development.

The results of Omarzehi (2015) in a research titled "Identifying the criteria for evaluating the teaching performance of faculty members from the perspective of students of Allameh Tabatabai University in Tehran" showed that in the field of teaching skills: the ability of the professor to present the material and mastery of the subject of the lesson, in the field of organization: and administration The ability to manage, control and manage the class in the field of communication skills: sincere behavior with students and accepting the reasonable suggestions and criticisms of students in the field of personality traits: faculty members being humble and having a neat and tidy appearance in the field of motivation: creating intellectual challenges in students and the ability to increase interest students regarding the course in the field of scientific qualification and the up-to-date knowledge and skills of the faculty member and familiarizing students with the ways of scientific research in the field of compliance with educational rules and regulations, the effective presence of the faculty member in the meetings of the relevant educational groups, and fairness in the end-of-semester evaluation of students and in the field of skills Evaluation Determining the grade at the beginning of the semester and using research as part of the end-of-semester evaluation are the most important criteria for evaluating the educational performance of board members. It is scientific.

Salimi; Moslehi (2015) in a research titled identifying the components and evaluation indicators of general physical education teachers showed the results as follows: the evaluation model of general physical education teachers in the form of 34 indicators and five components, teaching skills 14 indicators, communication skills five indicators, individual skills four indicators, Educational principles and rules of four indicators and monitoring and evaluation of seven indicators were designed.

Mohammadi, Malekshahi (2018) "Design and Validation of Descriptive Evaluation for Potential Teacher Qualifications" The results obtained include 65 items in four teacher skills including: sensitive, clinical, personal and technical skills from the perspective of students, administration, learning and growth in 5-point Likert.

-Salman, Y. Grayal (2017) "The impact and effectiveness of the development program for professors in improving the knowledge, skills and competence of the teaching staff" The results of the research showed that the enrichment of human resources in the key areas of teaching, research and professionalism is effective in improving the educational environment.

-Ninlawana (2015) "Effective factors in the professional development of teachers in education and innovation and educational technology of the 21st century" The results showed that: skills: creative and innovative, communication, information and media awareness and computer literacy and information technology in the 21st century confirmed by this There is research.

-Elena Arnotova, Luna, Pank (2015) in a research titled "Evaluation Criteria of Faculty Members" The purpose of this research is to create a reliable and standard tool for evaluating faculty members. It identified ten dimensions of faculty members' performance evaluation: comprehensive knowledge in the field of teaching, availability in communication between students and professors, presentation skills, passion for teaching, preparation and class management, examination of students, quality of educational materials, research and scientific productions. Administrative skills, reputation

Research questions

1- From the point of view of professors, what are the dimensions and components of faculty members' performance?

2- From the point of view of the professors, what is the rank of each of the dimensions and performance components of the faculty members?

Methodology

The results of this research can establish the performance management system of professors in higher education, so it is a practical research. This mixed exploratory research is sequential because the results obtained from the qualitative method help to create and shape the quantitative method and actually rank the criteria and sub-components of professors' performance evaluation. The first stage of the research included comprehensive literature review on professors' performance criteria, study of all patterns, models and research backgrounds in

this regard. The second stage: Qualitative studies The main goal of this stage of the research is to examine the concepts and categories related to the criteria and sub-components of professors' performance evaluation and to localize and conceptualize and give meaning to the evaluation categories of faculty members of Azad universities, for use. It was in the small part; Therefore, at this stage, achieving a deep and rich description of professors' experiences and perceptions regarding the criteria and sub-components of professors' performance evaluation was considered. Based on this, in order to identify the components and indicators of the evaluation of professors, in the current situation, through interviews with experts who included the director of educational groups and faculty members, who were selected purposefully. These concepts and categories became the basis for developing the quantitative questionnaire. After the interviews, the foundation data method with Straussian approach was used in qualitative data analysis. Grounded theory is a procedure for conceptualizing the data (open coding), categorizing and making connections between categories (axial coding), constructing a "story" that relates the categories to each other (selective coding), and concluding with a discursive set of theoretical propositions. (paradigm model).

Coding is an operation during which data are first analyzed, then conceptualized, and finally reconnected with new methods. (Khenifar; 2017: 214) and the theoretical concepts of research and paradigm model were created. The third step: setting up the ANP questionnaire and performing paired comparisons and implementing the network process analysis steps. The network analysis process technique is a new method in multi-criteria decision-making that is used to prioritize factors. When we are faced with multi-criteria decision making (MCDM) when we face more than one criterion or index in decision-making. The reason for using this method was that: a certain geometric definition of options and with mathematical logic. Simple, strong and well-designed. One of the advantages of this method is the comprehensibility of the content and the simplicity of its process and algorithm, and it is possible to easily represent the problem graphically. The purpose of multi-criteria decision-making is to choose the best option or give weight to the decision-making factors and evaluate the criteria. A better understanding of this technique requires the use of its software.

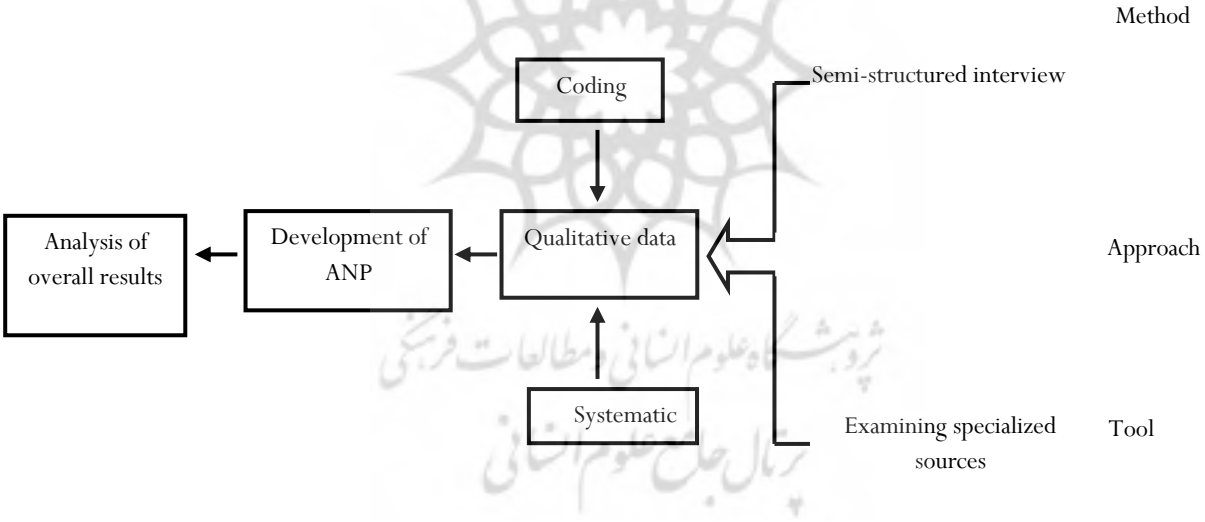

Figure 1. Sequential exploratory mixed research design

Statistical population and sample size of the qualitative part

Sampling method of the qualitative part: Purposive sampling was used to select the sample group of experts (for the purpose of interviews). In the purposeful sampling, cases that contain rich information in terms of qualitative research objectives will be selected. (Mohammadpour, 2010: 389) The collection of data in the qualitative section will continue until the basic elements of the study reach saturation. (Hariri, 2015: 140) The sample size of this research in the qualitative part: In this research, in order to collect data, 15 people from the managers of educational groups of Azad universities of different ages and academic records of different departments, and in the faculties of humanities of Tehran Azad universities. The interview was done. The interviews were conducted anonymously. And ethical standards were observed during the interview. The interview questions were drawn from the research questions, in order to obtain the components of professors' performance evaluation, it was

necessary to use a semi-structured interview of people who have lived experience in professors' performance evaluation and are concerned about achieving a standard model of professors' evaluation. It is necessary to obtain. Therefore, sampling of the qualitative part was done in a targeted manner. More than 400 signs were extracted from the interviews, 225 of which were compressed in the open coding stage and categorized into three central categories in the presentation of the paradigm model of the research. In the selective coding stage, 4 categories were compressed, totaling 12 categories. Conceptualized. Based on this, the three main components of education, research and consulting services were identified as the main components of this research, each of which has 4 sub-components. The text of the interviews is collected in the table below.

Table 1. Interview text

The text of the interview	Row
The first interviewee referred to the following indicators in response to the questions: 1. Optimal understanding of oneself and the audience 2. Understanding the differences and potentials of the contacts 3. Meaningfulness 4. Movement in the scientific, educational path and emphasis on values and beliefs 5. Thought generation that leads to software streamlining 6. Executive or cooperation in national, international, regional research projects 7. Familiarity with new approaches, mastery of research methods, mastery of research software and problem solving techniques, writing skills, publication of scientific findings, conceptualization, theorizing, joint research and educational perspectives. 8. International mentality 9. Presenting lesson plans to students in the first session of each semester 1. .10Being active in non-academic professional associations	1
The second interviewee referred to the following indicators in response to the questions 1. Optimal understanding of oneself and welfare contacts 2. Psychological 3. Have respectful interactions 4. And the social and political impact of discourse production 5. Membership in ethics committees of academic and research centers 6. International mentality 2. .7Understanding the differences and potentials of the contacts	2
The third interviewee referred to the following indicators in response to the questions 1. Psychological well-being 2. Optimal understanding of oneself and the audience 3. Have respectful interactions 4. International mentality 5. Familiarity with new approaches, mastery of research methods, mastery of research software and problem solving techniques, writing skills, dissemination of scientific findings, conceptualization, theorizing, joint research and educational perspectives. 6. .7Efforts to deepen the link between the educational and research activities of the university with the social, economic and cultural needs and conditions of the society with the approval of the university authorities.	3
The fourth interviewee referred to the following indicators in response to the questions 1. International mentality 2. Psychological well-being 3. Optimal understanding of oneself and the audience 4. Have respectful interactions 5. Familiarity with new models and methods of teaching and learning	4

The fifth interviewee referred to the following indicators in response to the questions 1. The ability to look at research topics from different perspectives 2. Ability to conceptualize related to the use of new educational and research technologies 3. Optimal understanding of oneself and the audience 4. Have respectful interactions 5. Familiarity with new models and methods of teaching and learning	5
The sixth interviewee referred to the following indicators in response to the questions 1. Psychological well-being 2. Have respectful interactions 3. Familiarity with new approaches, mastery of research methods, mastery of research software and problem solving techniques, writing skills, publication of scientific findings, conceptualization, theorizing, joint research and educational perspectives. 4. International mentality	6
The seventh interviewee referred to the following indicators in response to the questions 1. Familiarity with new models and methods of teaching and learning 2. Familiarity with sites and publications related to the field of research and in sync with modern technology 3. Getting to know new approaches, mastering research methods - mastering research software and problem solving techniques - writing skills - publishing scientific findings - conceptualization - theorizing - projecting common research and educational perspectives 4. Production of useful science for society 5. The creation of a knowledge base company and growth center, and a track record in research projects. 6. Science and technology parks and growth centers. 7. Recognizing and promoting the role of faculty members' research in increasing the status of the field	7
The eighth interviewee referred to the following indicators in response to the questions 1. Psychological well-being 2. Using research in teaching and having research policy and ethics 3. Having a theoretical contribution in the field of study through publishing and presenting articles and producing technical and specialized knowledge 4. Ability to manage and direct educational research 5. The ability to use research in the production of technical and specialized knowledge and the implementation of research projects 6. Optimal understanding of oneself and the audience 7. Have respectful interactions 8. Familiarity with new models and methods of teaching and learning	8
The ninth interviewee referred to the following indicators in response to the questions 1. Psychological well-being 2. Optimal understanding of oneself and the audience 3. Have respectful interactions 4. Familiarity with sites and publications related to the field of research and in sync with modern technology 5. Getting to know new approaches, mastering research methods - mastering research software and problem solving techniques - writing skills - publishing scientific findings - conceptualization - theorizing - projecting common research and educational perspectives 6. Production of useful science for society 7. Familiarity with new models and methods of teaching and learning	9

The 10th interviewee referred to the following indicators in response to the questions 1. Psychological well-being 2. Optimal understanding of oneself and the audience 3. Have respectful interactions 4. International mentality 5. Familiarity with new approaches, mastery of research methods, mastery of research software and problem solving techniques, writing skills, dissemination of scientific findings, conceptualization, theorizing, joint research and educational perspectives.	10

Validity of this research in the qualitative dimension

In order to increase the credibility and validity of the qualitative part of this research, the criterion of angle was used, which combines the angle of observers, the angle of theories, the angle of various methods and data sources, the results of this research can be compared to overcoming the bias caused by single-method, single-observer studies and give superiority to one theory. Methodological angle and controlling the conformity and compatibility of the findings produced with different methods of data collection. More than one method of data collection was used in this research, both data collection is through interviews and data collection is quantitative in terms of questionnaires.

Quantitative studies: This research used the ANP Analytical Network process technique in the quantitative dimension. The ANP network analysis process is a multi-criteria measurement theory that is used to derive relative preference scales of absolute numbers from individual judgments (from real measurements normalized for a relative form) and is dependent on the original scale of absolute numbers. (Sahati, 45) :1392)

In order to collect the required information from the faculty members in the field of identifying and ranking the components of the performance standards of the academic faculty members, a researcher questionnaire made by ANP was set up. and psychology, teaching quality and excellence in teaching, in the research dimension: competences, innovation and creativity, communication, technology, cognitive and in providing consulting services, competences: value and motivation, communication, technology, cognitive, were designed with a 9-point scale. To complete the comparison matrix A pair of numbers is used to show the relative importance of one element to another element in the desired properties. The degree of importance of numbers 1 to 9 in two-by-two comparisons are presented in the table below. (Saati, 2013)

Table 2. Numerical value in pairwise comparisons

Degree of significance in two-by-two comparisons	**Numerical Value**
unimportant	1
Equal to insignificant	2
Of medium importance	3
Medium to high importance	4
A bit important	5
Important	6
very important	7
very important	8
Great importance	9

Table 3. ANP questionnaire items

Teachers' performance evaluation items	Sub-components	main dimensions
1- Psychological well-being	Items 1-8 psychological	education
2- Optimum understanding of oneself and the audience		
3-Enjoying respectful interactions		
4-Understanding the differences and potentials of the audience		
5- Positive relationship with others		
6- Try to realize your potential		
7- Self-determination		
8- Significance		
9- Movement in the scientific, educational path and emphasis on values and beliefs	Items 9-16 spiritual	
10- Promoting idealism		
11- The effort of cultural immunization		
12- Providing a model of behavior, a worthy model of globalization		
13- Concluding with insight in teaching (achievement of wisdom and religious and revolutionary responsibility)		
14-Thought generation that leads to software streaming		
15- Obtaining cultural awards in the field of promoting the culture of sacrifice and martyrdom, cultural responsibilities		
16- Trying to achieve the position of scientific authority		
17-Regular attendance in the class according to the class schedule and the legal time of the class	Items 17-24 managerial	
18- Presenting the lesson plan to the students in the first session of each semester		
19- Classroom skills		
20- Continuous evaluation of the students of each course		

21- Attending the faculty according to the schedule announced every semester			
22- Familiarity with educational laws and regulations			
23- Guide theses			
24- Entering and leaving the class on time			
25- He can guide students to develop their skills and abilities.			
26- Insight into teaching quality (emphasis on the process of self-initiation, self-leadership)			
27- Familiarity with new patterns and methods of teaching and learning			
28- Insight in multicultural affairs			
29- The ability to plan based on students' scientific strategies and expectations	Items 25-32	Quality	
30- Trying to grow and prevent the risk of scientific and content stagnation			
31- The ability to plan for the appropriate use of technology			
32- Setting standards for student behavior in class			
33-Membership in professional associations inside and outside the country			
34-Executive or cooperation in national, international, regional research projects.			
35- Interdisciplinary insight, connection with the industry, authoring and translating books and original works of art			
36- Face-to-face social or scientific-research interactions inside and outside the workplace			
37- The ability to create research networks - especially in relation to effectiveness and interdisciplinary nature	Items 33-40	communicational	Research
38- Inviting the invited teacher and entrepreneur, visiting, etc. and producing and selling technical knowledge.			
39- The creation of a knowledge base and growth center company, and an executive record in research projects.			
40-Recognizing and promoting the research role of faculty members in increasing the status of the field			
41- Use of new educational and research technologies			
42--The ability to look at research topics from different perspectives			
43-The ability to conceptualize related to the use of new educational and research technologies	Items 41-48	New Technology	
44-Participating in setting up research and technology exhibitions			

45-Participating in empowerment courses in the field of research			
46- Efforts to deepen the link between the educational and research activities of the university with the needs of the day			
47-Synchronized with today's technology			
48- Familiarity with new approaches to mastering research methods			
49- Production of useful science for society	Items 49-56	valuable	
50- Compilation of valuable and innovative works with an Islamic approach			
51-Constant effort and learning and cheerful search and avoiding laziness			
52 Ability and skill of team work - scientific cooperation			
53-Continuing to adhere to religious, cultural and national values			
54- Evolutionism, influencing others			
55- Committed to continuous development and increasing and adapting one's attitude, knowledge, skills			
56- Advance to solve the problems of students and colleagues			
57- Research associate	Items 57-64	psychological	
58-Understanding the role of faculty members' research in increasing the status of the field			
59- Activity towards the general research mission of the university			
60- The ability to summarize, analyze, document and transfer experiences to others			
61-Using research in teaching and having research policy and ethics			
62-Having a theoretical contribution in the field of study and production of technical and specialized knowledge			
63- The ability to manage and guide educational research			
64- The ability to use research in the production of technical and specialized knowledge			
65- The ability and skill of team work such as: co-learning, theorizing, conceptualization	Items 65-72	creativity and innovation	Counseling
66- The ability to use knowledge in the production of technical and specialized knowledge			
67- Promotion of entrepreneurial, innovative, opportunity-seeking, risk-seeking attitude			
68- Holding scientific and research workshops at the university level			

69- Trying to generate income at the university level		
70- Creative and critical thinking ability		
71- The ability to create coherent and challenging operational goals		
72- Encouraging the spirit of seeking participation, accepting criticism and welcoming questioning		
73- International cooperation with the priority of Islamic countries and Persian speaking countries	Items 73-80	Foreign relations
74-Being active in non-academic professional associations		
75- Participation in the scientific and cultural promotion of the Iranian Islamic model of progress		
76- Committed to the development of cultural and social competitions among students		
77- Individual communication (communicative-perceptual skills)		
78- Interested in improving the academic rank of the university		
79- Ability to work with different groups and networking in providing scientific services		
80-Secretary of scientific conferences-participation in scientific, executive committees, conferences		
81-Participating in setting up knowledge-enhancing workshops and empowering academic staff	Items 81-88	Technology
82- Setting up a laboratory, research unit, specialized library, industrial unit workshop		
83- Active participation in holding free thinking, criticism and theorizing chairs		
84- Knowledge and technology transfer in the form of educational and research courses		
85-Participation in the design of the electronic education system		
86-Participating in the implementation of guidelines to improve the quality of educational services		
87- Communication with the industry, providing advice to the industry and entrepreneurship		
88-Presenting a certain plan and map to improve the effectiveness of teaching		
89- The directorate of universities, colleges and units of higher educational institutions	Items 89-96	Intercultural skills

90- Familiarity with the second and third language to be used in study and research and providing advice
91- Invention, discovery and production of computer software related to teaching
92- Participation in entrepreneurship programs, growth centers and science and technology parks
93- Provision of advisory, scientific, cultural, educational, social and educational services for students and students
94- Social and political impact of discourse production
95-Membership in ethics committees of academic and research centers
96-Responsibility in correcting and directing desirable cultural attitudes

In each dimension of the three dimensions as components of professors' performance standardization and 8 behavioral items or phrases in each of the four dimensions of competencies: and managerial, psychological competencies, teaching quality and excellence in teaching, in research: competencies, innovation and creativity, and in providing consulting services competencies It is value and motivation, communication, technology, cognitive, which was calculated through reviewing the literature related to the research subject and the verbal codes of the interviewees. The coding process was used in the analysis of the data collected in the grounded theory method.

Quantitative sampling method: (ANP) is an expert system method, and in such methods, the sampling volume is done with a small number, like the Delphi method. The sample size in the Analytical Network Process (ANP) method is different from software such as spss because this method is of the type of research in operation and it is done according to the amount of error and the sample size is determined from among the experts, therefore, the participation of faculty members in data collection It was taken advantage of. The sampling method was random and the sample size consisted of 30 faculty members of Tehran Azad University. The demographic characteristics of the participants are collected in Table (4), the demographic characteristics of the respondents and the statistical population are collected.

Table 4. Demographic characteristics of the respondents

Percentage	Frequency		
%87	26	Man	gender
%13	4	Female	
%6	2	20 to 30 years	Age
%20	6	30 to 40 years	
%46	14	40 to 50 years	
%28	8	Above 50 years	
%0	0	diploma	Level of education
%0	0	Associate Degree	
%3	1	Masters	
%17	5	Masters	
%80	24	Doctorate	

Validity of this research in quantitative dimension

A value of Cronbach's alpha higher than 0.7 is an acceptable indicator of reliability. And the obtained alpha values are as follows:

Table 5. Cronbach's alpha coefficients

	Cronbach's alpha
Education	0/84
Research	0/76
consulting services	0/66

Findings

The results of the ANP network analysis process for the main research indicators

In this research, 3 main factors and for each of the main factors a number of sub-indices have been identified in order to prioritize the factors and indicators of professors' performance standardization based on the network analysis process method, which the matrix of paired comparisons integrated from 30 decision makers is shown in table (6).

Table 6. Pairwise comparison matrix of the main research indicators

Indicators	training	research	consulting services
Education	1		
Research		1	
consulting services			1

Table 7. Pairwise comparison matrix of the main research indicators in the Superdecision program

incompatibility	consulting services		research
training	3 .2874		2 .491
consulting services			1 .3197

After building the model in the Superdesign program and entering the matrix of paired comparisons, the weight of criteria and sub-criteria was obtained as shown below. Figure (4-) shows the prioritization of the main factors of professors' performance standardization based on the combination of decision-making methods using the AANP network analysis process with the help of Superdecision software. The factor of consulting services with a relative weight of 484/. It is the most important and the research factor with a relative weight of 367/. In the second priority and education factor with a relative weight of 147/. It is in the third priority. Inconsistency rate of paired comparisons/000. It has been found that because less than 10/. These comparisons are acceptable.

Education		0 .147527
consulting services		0 .484981
research		0 .367492

Calculation of the relative weight of education indicators

In this research, using the subject literature and relevant experts, a total of 4 sub-indices have been identified in order to prioritize the factors of teaching standardization of professors' performance based on the combination of decision-making methods using the AANP network analysis process, and the matrix of paired comparisons of the decision-makers has been integrated in the following tables. According to the table and the figure, it is clear that the relationship between all sub-indices is two-way.

Table 8. Matrix of paired comparisons of sub-indices according to the main factor of education

incompatibility	Management competence	Spiritual merit	Teaching quality
Psychological competence	1 .4343	1 .7183	2 .2465
Management competence		2 .4646	3 .2222
Spiritual merit			1 .3074

Chart 1. Prioritization of the main indicators according to the education factor

Psychological competence	0 .176616
Management competence	0 .123136
Spiritual merit	0 .303480
Teaching quality	0 .396769

According to the above table, it can be seen that according to the main weight obtained, the components of teaching quality, spiritual competence, psychological competence and managerial competence in education have the most and least importance in the group. On the other hand, considering that the inconsistency rate obtained is 0.000, which is smaller than the standard limit of 0.1, hence the above questionnaire was completed with high accuracy by the respondents.

Calculating the relative weight of research indicators

In this research, using the subject literature and relevant experts, a total of 4 sub-indices have been identified in order to prioritize the research factors of standardization of professors' performance based on the combination of decision-making methods using the AANP network analysis process, which is the matrix of paired comparisons of the decision-makers as shown in the following tables. is. According to the table and the figure, it is clear that the relationship between all sub-indices is two-way.

Table 9. Matrix of pairwise comparisons of sub-indices according to the main research factor

Inconsistency	Communication competence	Value competence, attitude	Psychological competence
Communication competence	1 .2341	1 .5628	2 .4488
Technology competency		1 .2663	1 .9843
Value competence, attitude			1 .5669

Chart 2. Prioritization of the main indicators according to the research factor

Communication competence	0 .349828
Technology competency	0 .283466
Value competence, attitude	0 .223848
Psychological competence	0 142857

Table 10. Matrix of paired comparisons of sub-indices according to the main factor of consulting services

incompatibility	Competence of foreign relations	Technology competency	Intercultural competence
Competence of creativity and innovation	4 .1467	1 .4823	2 .2465
Competence of foreign relations		6 .1467	3 .2222
Technology competency			1 .3074

Chart 3. Prioritization of main indicators according to the factor of consulting services

Competence of creativity and innovation	0 .293952
Competence of foreign relations	0 .070891
Technology competency	0 .435728
Intercultural competence	0 199428

According to the above table, it can be seen that according to the main weight obtained, the components of technology competence, creativity and innovation competence, intercultural competence, foreign relations competence and have the most and least importance in the group. On the other hand, considering that the inconsistency rate obtained is 0.000, which is smaller than the standard limit of 0.1, hence the above questionnaire was completed with high accuracy by the respondents.

Chart 4. Ranking of options according to the main criteria and sub-criteria

priorities			
Names of sub-indexes		Normalized by cluster	unique
Psychological competence 2		0 .17662	0 .058872
Management competence		0 .12314	0 .041045
Spiritual merit		0 .30348	0 .101160
Teaching quality		0 .39677	0 .132256
Competence of foreign relations		0 .07089	0 .023630
Intercultural competence		0 .19943	0 .066476
Technology competency		0 .43573	0 .145243
Competence of creativity and innovation		0 .29395	0 .097984
Education		0 .00000	0 .00000
consulting services		0 .00000	0 .00000
Research		0 .00000	0 .00000
Communication competence		0 .34983	0 .116609
Psychological competence		0 .14286	0 .047619
Communication competence		0 .28347	0 .094489
Value and attitudinal competence		0 .22385	0 .074616

Conclusion

This research reached the conclusion in the ranking of indicators that: the factor of consulting services with a relative weight of 484/. It is the most important and the research factor with a relative weight of 367/. In the second priority and education factor with a relative weight of 147/. It is in the third priority. In education, the components of teaching quality, spiritual competence, psychological competence and managerial competence are the most and least important in the group. The components of communication competence, competence of new technologies in research, competence of innovation and entrepreneurial creativity in research, and cognitive competence in research have the highest and least importance in the group. In consulting services, the components of technological competence, creativity and innovation competence, competence cultural, competence of foreign relations, and have the most and the least importance in the group. Jawdani, Mohammad; Heydari Naqdali, Jila; Anari Nejad, Abbas (2018) Omarzahi (2015), Hemti, (2015), Ninlavana (2015), Mohammadi, Malekshahi (2018), Elena Arnotova, Luna, Pank (2015).

Service is expected from all faculty members; But the type of these services is different according to each person's expertise and profession. Service performance helps the university and colleges to be recognized by the society. According to the regulations on the promotion of faculty members (2008), service performance can include: organizing research and technology exhibitions, setting up a laboratory, research unit, specialized library, workshop, industrial units, refereeing scientific articles, criticizing and debating in theorizing, invention and

Exploration, participation in entrepreneurship programs, growth centers and science-technology parks, secretary of scientific conferences, participation in scientific-executive committees of conferences and membership in the editorial board of scientific publications, editorship, second and third foreign languages to be used in study and research, design The questions of the national exams and the Olympiad and …… cooperation in the three forces, the deanships of universities and higher education institutions, the deanships of faculties and research units, the translation of texts, editing, etc. (Samadi 2014)

Research is the basis of development and is considered a guarantee for the continuation of development, and the scientific, industrial and cultural development of any country will not be successful without research. Research is the fruit of education, in fact, research is a source of knowledge and ability for every nation, because it expands the range of human knowledge and information from the physical, biological, and social environment, etc., and is the source of ability; Because it leads to the production of technology and increases human ability in conquering environmental factors and providing welfare and comfort. (Taha, 1395) If in the 20th century education was the main subject, in the 21st century it is the main subject of research, and the importance of research and technology in the development of countries has been continuously improving and increasing since the middle of the 20th century. Today, the production of science is considered one of the most important indicators of difference and differentiation of different countries (Hashmi Daran, 2013). One of the most important concerns of the university education system is the research performance of faculty members, which is one of the two main criteria of university output. (Bazargan 1382)

The educational activities of faculty members can be categorized in each of the following 5 areas:

-Teaching (teaching): including giving lectures, teaching scientific courses, teaching practical courses, teaching in small groups, participating in educational seminars and conferences, designing and revising lesson plans, and preparing educational materials and teaching aids for presenting relevant courses.

-Educational planning, including the design and implementation of a new educational program (such as curriculum planning) and the modification of existing educational programs (according to the results of the needs assessment or the weaknesses and strengths of the program)

-Guidance and counseling, including guidance of trainees at different levels to increase their efficiency in learning activities, better learning skills, writing proposals, reports and articles related to dissertations or research projects. - Educational management and leadership; Such as planning, continuous and active pursuit of organizational excellence, continuous evaluation of the actions taken, publication of the results of the activities carried out and attracting the required resources and other areas of management.

-evaluation of learners; Including design of test questions for different levels, cooperation in conducting tests, design and implementation of new evaluation methods and tools and tests at different levels (according to the weaknesses and strengths of existing methods)

Concepts such as: psychological capital, meaningfulness, and psychological well-being, spiritual well-being, among the new concepts and indicators in the field of competences and capabilities of professors are seen, which is suggested: in the design of the standards for evaluating the performance of faculty members to each of these indicators It should be viewed as a system and combined with national, regional and international requirements. And the practical examples of these indicators have been clarified and the performance agreements have been specified in the category of performance expectations. Also, these indicators have been promoted in decision-making and providing strategies to improve the quality of the professors' performance. be noticed Psychological capital on job attitudes and job enthusiasm, job satisfaction, organizational commitment, etc., organizational citizen behavior, emotions and mental states, cognitive states (problem solving, creativity, etc.) and especially improving individual work performance and The organization has a significant impact. Basic psychological dimensions such as: meaningfulness, competence, autonomy and effectiveness, which somehow refer to innovative behaviors (creating a new product, service, thinking, new procedure and process are related). and psychological well-being; It includes positive relationship with others, purposeful life, self-acceptance, personal growth, mastery of the environment, a faculty member's effort to realize his potential abilities. Spiritual well-being is the basis of one's beliefs in various fields of spirituality. A person with spiritual well-being can establish integrity and compatibility in an internal and psychological relationship with himself and the Creator in the fields of meaning, purpose and values in his individual life, collective life and professional life.

It provides spiritual well-being, enjoyment and energy from work, a sense of meaning and purpose in carrying out activities and tasks at an individual level among faculty members, and the obligation to professional ethics

and effective guidance of research, educational and consulting activities among faculty members. Spirituality in work with an introspective approach gives the faculty member a sense of peace and satisfaction in performing his duties, and on the other hand, by searching for meaning in research, teaching and consulting services, it creates integration and compatibility between individual goals and values and organizational goals and values. On the other hand, spiritual well-being has a collective nature. Spirituality at work is a strong motivating force to find the meaning of job values and belief system of faculty member. This means that love, justice, hope and valuing human qualities in interaction with students and colleagues, feeling connected with them, professional support of employees for each other, having a common goal, connecting with the goals and values of higher education, university and faculty, in The category of this index is Meaning is achieved when the value system of a faculty member and his ideals are connected with his professional goals and the person is placed in a positive judgment of the requirements of the job description and the requirements of duties and behaviors.

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