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A framework of faculty performance evaluation: A case study in Bangladesh

CL Karmaker[1*], SMT Ahmed[2], MS Rahman[3], M Tahiduzzaman[4], TK Biswas[5], Mustafizur Rahman[6], SK Biswas[7]
[1] Assistant Professor, Department of Industrial and Production Engineering, Jessore University of Science and Technology, Jessore-7408, Bangladesh
[2-7] Department of Industrial and Production Engineering, Jessore University of Science and Technology, Jessore-7408, Bangladesh

Abstract
Objectives: The purpose of this work is to investigate the performance evaluation indices of academic staffs and evaluate teachers' performance of a renowned engineering university of Bangladesh.
Methodology: In this study, a hybrid multiple-criteria decision-making (MCDM) model has been applied to accomplish these objectives. Specifically, the analytic hierarchy process (AHP) is utilized to determine the weights of attributes (key performance indicators) but TOPSIS is adopted for showing the preference order of the teachers in an educational organization. In this study, fifteen sub-criteria of five main performance evaluation indicators and seven faculty members have been considered to validate the proposed model.
Results: The result shows a ranking among the seven faculty members with respect to the selected key performance indicators. It also shows the specific weighted normalized value of each indicator for a faculty member.
Conclusion: The analysis and results of this study can help the management of educational organization in Bangladesh to assess its each individual's contribution to the organization. It can also help the faculty members to identify their performance gap and improve their teaching performance.

Keywords: key performance indicators; evaluation process; teaching staff; multi criteria decision making, AHP-TOPSIS

1. Introduction

The intension of the education system is to enhance such values and improve people's skills and capacity so that they can contribute to the sustainable development of any country. It is the prime ingredient of human resource development. Education has been viewed as a key to a better future, a vital tool to develop a nation. Among the different levels of education such as primary, secondary, higher secondary and university education, university or higher education plays significant role in the development of people's capability to meet the country's societal, economic and technological need.

During the last two decades, higher education in Bangladesh has grown at a very fast rate. Though the number of graduates is being accelerated every year, there is always a question mark about the quality of those graduates as well as the educational institution with respect to quality teachers. Among the 40 public universities, 96 private universities and 3 international universities in Bangladesh, only a few institutions are performing better in terms of producing quality graduates. Yet, the quality of the higher education falls short of attaining the global level excellence. Graduates are failed to meet the employers' need. One of the major causes of this condition is the lack of highly qualified teachers and the poor performance of them. But there is no practice of identifying the key performance indices of the teachers and evaluating them on a regular basis. Only a few institutions are trying to practice the performance evaluations of the teachers but which are insufficient and unstructured. This is the original stimulus for our research.

The effectiveness of the higher education largely depends on the quality and performance of the teachers. If no evaluation mechanism in accordance with some key performance indicators exists, then any improvement in the quality and performance of the teachers will be limited in scope. Key performance indicators help to identify the areas on which strong focus should be given for achieving better results. Identifying these important indices and evaluating the teachers on these indices regularly will help them to understand their strength and weakness and will stimulate them to overcome the weakness in future. Regular evaluation creates a healthy competition among the teachers. But the prerequisite of this evaluation is to develop a structured and effective model of performance assessment.

The aim of this study is to develop some performance indicators and an evaluation mechanism to evaluate the performance of the teachers of a department of a renowned engineering university with respect to those indicators. A hybrid multiple-criteria decision-making model has been used to develop this mechanism. Hence, to accomplish our aim we must first develop some key performance indicators. Then, the analytic hierarchy process (AHP) has been applied to determine the weights of those performance indicators. But TOPSIS has been applied for showing the preference order of the teachers of that department.

The rest of this study is arranged as follows: The second section presents the literature review. Section 3 frameworks the developed methodology and provides a stepwise depiction of the anticipated MCDM approach. In Section 4, the

application of the proposed framework for performance evaluation of the teachers has been given. And finally, in section five, results of the application are presented and suggestions for the future studies are clarified. This section wraps up this study.

2. Literature review

Regular performance evaluation of the faculty members is very essential as the quality of education and the reputation of an educational organization largely depend on the faculty members of that organization. It also introduces a foundation for improvement and enhancement of the skills that are required to perform well. The problem regarding the teachers' performance evaluation is not at all a straight problem to select the one directly as the quality of the teachers depends on multidimensional factors. Teachers' performance evaluation problem can be considered as a multi-staged decision-making problem having both numerical and qualitative conflicting criteria.

Chen *et al*. (2014) [3] have proposed a novel framework to design an evaluation system of the teachers by using fuzzy AHP and fuzzy comprehensive evaluation approach. In this study, fuzzy AHP has been used to establish the weights of the key performance indicators and fuzzy comprehensive evaluation technique has been used to evaluate the faculty performance. Kumar *et al*. (2013) [8] have used several multi criteria decision making (MCDM) methods to select the right personnel in the complex academic environment. Here, simple additive weighing (SAW), weighted product method (WPM), AHP and TOPSIS have been used to find teaching staff on the basis of appropriate performance measurement. Ghosh (2011) [5] has proposed two-step AHP and TOPSIS method for the performance evaluation of teaching associates of in engineering education. Here, AHP and TOPSIS based approach have been considered more powerful than traditional performance evaluation methods. Aydogan (2011) [1] has proposed a conceptual framework for evaluating the performance of aviation firms by using rough-AHP and TOPSIS. Wu *et al*. (2009) [11] have used balance scorecard to establish key performance indicators for evaluating banking performance. Fuzzy AHP is used to give weights to these criteria and SAW, TOPSIS and VIKOR are used to evaluate the performance. Lee *et al*. (2008) [9] have used balance scorecard (BSC) and fuzzy AHP for the performance evaluation of IT department in the manufacturing industry. Here, balance scorecard is used to select the performance indicators and fuzzy AHP is used to evaluate the performance. Islam *et al*. (2006) [7] used AHP to evaluate the employee performance based upon some important indicators. Bozbura *et al*. (2006) [2] have proposed a model that uses fuzzy AHP to prioritizing the indicators for human capital measurement of any country. In this paper, a performance evaluation model of faculty members has been proposed in the context of Bangladesh. The key performance indicators (KPIs) have been selected after reviewing literatures as well as considering expert's opinions. Here, AHP has been used to assign weights to those indicators. Finally, TOPSIS is used to rank the faculty members by measuring the performance and to clear the vagueness of qualitative data which are collected from the students.

3. Research methodology

Multiple-criteria decision analysis (MCDA) or Multiple-criteria decision making (MCDM) is a powerful tool of operations research which is used for screening, prioritizing, ranking, or selecting a set of alternatives under conflicting attributes (Hwang & Yoon, 1981) [6]. Selecting the attributes is very pivotal because they ultimately influence the decision making process of MCDM methods. In the literature, a lot of MCDM techniques are available and different techniques provide different results for the same problem. So, it becomes a difficult problem to make a decision on how to make trade-off between these conflicting attributes (Cheng, Chen & Huang, 2012) [4]. A combination of AHP-TOPSIS method has been used in faculty performance evaluation problem. The weights of performance indices are determined using non-fuzzy AHP method while TOPSIS approach is proposed for evaluating and ranking candidates.

The evaluation procedure in this paper consists of four main steps as summarized in Figure 1.

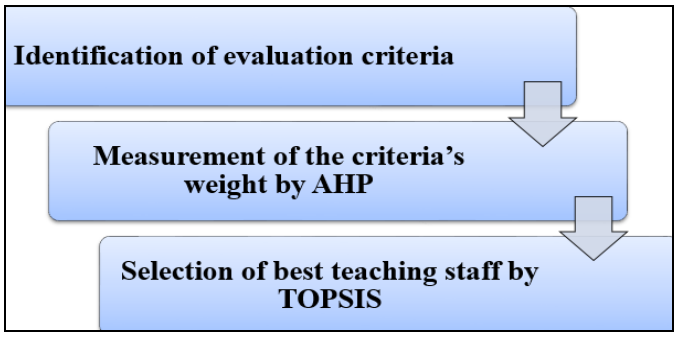

Fig 1: Steps of evaluation procedure

Step 1: Identify the evaluation criteria considered as the most important performance measures for the performance evaluation problem.
Step 2: Construct the hierarchy of the evaluation criteria.
Step 3: Calculate the weights of these criteria using AHP method.
Step 4: Conduct the TOPSIS method to achieve the final ranking results.

The detailed descriptions of each step are illustrated in the following sections.

3.1 Determining the criteria weights under AHP approach

The Analytic Hierarchy Process (AHP) is a very popular MCDM method which was developed by Thomas L. Saaty (1980) [10]. It is widely used for solving complex problems having several attributes. This method converts unstructured problem under study into hierarchical forms of elements which are the main goal of the selected problem, criteria that affect the overall goal, sub-criteria that influence the main-criteria and finally the alternatives available to the problem.

The stepwise procedure to calculate the criteria weights by AHP as follows:

Step 1: Construct the structural hierarchy.
Step 2: Construct the pair-wise comparison matrix.

Assuming n attributes, the pair-wise comparison of attribute i with attribute j yields a square matrix $A_{n\times n}$ where a_{ij} denotes the comparative importance of attribute i with respect to attribute j. In the matrix, $a_{ij} = 1$ when i = j and $a_{ji} = 1/a_{ij}$.

$$A_{n\times n} = \begin{array}{c} Attribute \\ 1 \\ 2 \\ 3 \\ .... \\ .... \\ n \end{array} \begin{bmatrix} a_{11} & a_{12} & a_{13} & .... & .... & a_{1n} \\ a_{21} & a_{22} & a_{23} & .... & .... & a_{2n} \\ a_{31} & a_{32} & a_{33} & .... & .... & a_{3n} \\ .... & .... & .... & .... & .... & .... \\ .... & .... & .... & .... & .... & .... \\ a_{n1} & a_{n2} & r_{n3} & .... & .... & a_{nn} \end{bmatrix}$$

Step 3: Construct normalized decision matrix

$$c_{ij} = a_{ij} \Big/ \sum_{J=1}^{n} a_{ij} \quad i = 1,2,3,.....,n\,;\; j = 1,2,3,.....,n \tag{1}$$

Step 4: Construct the weighted normalized decision matrix

$$w_i = \sum_{J=1}^{n} c_{ij} \Big/ n \quad i = 1,2,3,.....,n \tag{2}$$

$$W = \begin{bmatrix} w_1 \\ w_2 \\ . \\ . \\ w_n \end{bmatrix} \tag{3}$$

Step 5: Calculate Eigenvector & Row matrix

$$E = N^{th} rootvalue \Big/ \sum N^{th} rootvalue \tag{4}$$

$$Rowmatrix = \sum_{j=1}^{n} a_{ij} * e_{j1} \tag{5}$$

Step 6: Calculate the maximum Eigen value $\lambda_{\max}$.

$$\lambda_{\max} = Rowmatrix \Big/ E \tag{6}$$

Step 7: Calculate the consistency index & consistency ratio.

$$CI = (\lambda_{\max} - n) \Big/ (n-1) \tag{7}$$

$$CR = CI \Big/ RI \tag{8}$$

Where n & RI denote order of matrix & Randomly Generated Consistency Index respectively.

3.2 Ranking alternatives by TOPSIS

For the assessment of teaching staff selection, one of the MCDM methods named TOPSIS has been anticipated in this research. In this section, TOPSIS method is explained.

3.2.1 The TOPSIS method

TOPSIS (Technique for Order of Preference by Similarity to Ideal Solution), developed by Hwang and Yoon in 1981, is one of the MCDA/MCDM methods for resolving real-world decision problems satisfactorily. It selects the best candidate among several alternatives which has the shortest distance from the positive ideal solution. Positive ideal solution maximizes the benefit criteria and minimizes the cost criteria whereas negative ideal solution is just reverse one (Wang & Chang, 2007; Wang & Elhag, 2006; Wang & Lee, 2007) [12, 6, 13]. In TOPSIS method, precise scores that each alternative receives from all the criteria are used in the formation of a decision matrix and normalized decision matrix. By taking into consideration the rates of all attributes, positive and negative ideal solutions are found. By comparing the distance coefficient of each alternative, the preference order of the alternatives is determined.

The stepwise procedure of Hwang and Yoon (1981) [6] for implementing TOPSIS is presented as follows:

Step 1: Construct normalized decision matrix of beneficial and non-beneficial criteria.

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{j=1}^{J} x_{ij}^2}},\; j = 1,2,3,.....,J;\; i = 1,2,3,.....,n \tag{9}$$

Where x_{ij} and r_{ij} are original and normalized score of decision matrix respectively.

Step 2: Construct the weighted normalized decision matrix by multiplying the weights w_i of evaluation criteria with the normalized decision matrix rij.

$$v_{ij} = w_j * r_{ij},\; j = 1,2,3,.....,J,\; i = 1,2,3,.....,n \tag{10}$$

Where w_j is the weight for j criterion?

Step 3: Determine the positive ideal solution (PIS) and negative ideal solution (NIS)

$$A^* = \{v_1^*, v_2^*, ...y_n^*\} \; \max imum\; values \tag{11}$$

Where $v_i^* = \{\max(v_{ij})\;\; if \;\; j \in J; \min(v_{ij})\;\; if \;\; j \in J^-\}$

$$A^{-} = \left\{ v_1^{-}, v_2^{-}, \ldots\ldots, v_n^{-} \right\} \text{ Minimum values} \quad (12)$$

Where

$$v^{-} = \{\min(v_{ij})\ if\ \ j \in J; \max(v_{ij})\ if\ \ j \in J^{-}\}$$

Step 4: Calculate the separation measures of each alternative from PIS and NIS

$$d_i^{*} = \sqrt{\sum_{j=1}^{n} \left(v_{ij} - v_j^{*} \right)^2},\ j = 1,2,\ldots\ldots,J \quad (13)$$

$$d_i^{-} = \sqrt{\sum_{j=1}^{n} \left(v_{ij} - v_j^{-} \right)^2},\ i = 1,2,\ldots\ldots,J \quad (14)$$

Step 5: Calculate the relative closeness coefficient to the ideal solution of each alternative

$$CC_i = \frac{d_i^{-}}{d_i^{*} + d_i^{-}},\ \text{i = 1, 2… J} \quad (15)$$

Step 6: Based on the decreasing values of closeness coefficient, alternatives are ranked from most valuable to worst. The alternative having highest closeness coefficient (CC_i) is selected.

4. Numerical example

The purpose of the empirical application is to illustrate the use of the proposed model. The experiment was basically setup upon a real life decision. It has been applied in a particular department of a public engineering university of Bangladesh for identifying the most eligible faculty among existing faculty members. The reason why educational sector is chosen is, assessment of performance level of its academic staff is very vital. It should be noted that in spite of having sufficient knowledge of a teacher about his subject he/she may not be the best faculty member in his department. Moreover, assess each individual's contribution to the organization helps to improve the quality of the organization. To preserve confidentiality, the name of the university and seven applicants have been kept undisclosed and the seven teachers are referenced as *T_1, T_2, T_3, T_4 T_5, T_6 and T_7*. The university desires to decide which candidate among the seven faculty members is the most eligible based on its vision and strategy. In the decision process, data are collected from students of the particular department. First of all, the evaluation criteria for the performance evaluation were taken from the studies in the literature and the discussions with the experts in specific sector. The hierarchical structure contains five main-criteria and 15 sub-criteria for the performance assessment of faculty members. The hierarchy is shown in Table 1.

Table 1: Hierarchical Representation of Criteria

Criteria		
Main Criteria		Subject Knowledge (C_1)
		Ability of communication (C_2)
		Discipline (C_3)
		Co-operative (C_4)
		Creative (C_5)
Sub Criteria	Subject Knowledge (C_1)	Ability of teaching (C_{11})
		Understand student psychology (C_{12})
		Problem solving capability (C_{13})
	Ability of commutation (C_2)	Clear idea (C_{21})
		Accessibility (C_{22})
		Power of explanation (C_{23})
	Discipline(C_3)	Fair (C_{31})
		Attitude (C_{32})
		Well organized (C_{33})
	Co-operative (C_4)	Good guidance (C_{41})
		Dedicated (C_{42})
		Power of motivation (C_{43})
	Creative (C_5)	Positive reinforcement (C_{51})
		Passionate (C_{52})
		Inspirational (C_{53})

5. Results and discussion

After sorting out the evaluation criteria, next step is to identify the most crucial criteria related performance assessment of academic staff. Firstly, analytical hierarchy process (AHP) was applied to determine the weights of the five main criteria (key performance indicators) required for the faculty members.

To improve the decision process, a total of three groups consisting of 30 students were considered for making comparison matrix. They expressed their opinions using Saaty's 1-9 scale (Chen, 2004) and then, an aggregated pair-wise comparison matrix was prepared by average method. For all attributes geometric means along with normalized weights were calculated with some developed formulas. To check the validity of decision maker's judgments, consistency ratio (CR) was calculated using random index data for respective number of attributes. All calculations are presented in Table 2. The results revealed that among five performance issues, subject knowledge has the highest normalized weight (0.0.279). The second highest weight is co-operative whose value is 0.278 and discipline has the lowest weight value of 0.128. In summary, the most crucial criteria among five issues demanded by the students is subject knowledge. The value of Consistency Ratio (CR) is approximately 1% which means the judgments specified by the decision makers are absolutely correct. As the estimated CR is less than Saaty's proposed CR, so it means the judgments specified by the decision makers are absolutely correct. The same computational ways are anticipated to determine the weights of the sub-criteria which are presented in Table 3. Consistency ratio (CR) has been calculated using defined formula and it is less than 10%.

At the final portion of the research work, TOPSIS approach was applied to use to rank the potential alternatives considering the weights of all criteria which are obtained by

AHP method. In the first step of the algorithm, a decision matrix using three decision makers' opinion (D_1, D_2, D_3) was developed using numerical values. The decision matrix of TOPSIS method is shown in Table 4. Then, the aggregated values of each sub-criterion are calculated by using average technique in TOPSIS method as shown in Table 5. Using Table 5, normalization of these values is made through Eq. (9). Then, weighted normalized matrix was developed. Weighted normalized values were obtained by multiplying the weights of criteria (performance indices) and corresponding normalized values of all alternatives (seven concerned faculty members). Finally, positive and negative ideal solutions, separation measures from positive and negative ideal solutions were calculated. Then, closeness coefficients of four concerned design parameters were determined. All calculations were presented in Table 6.

The summarized data about all rankings is given in Figure 2. The management can take decisions from the plot which indicates *"T_1"* as a good choice for consideration. The results revealed that faculty member 1 (*T_1)* has the highest closeness coefficient value which is 0.62 and the second highest is member 2 having value of 0.55. Candidate 5 has the lowest coefficient. Highest closeness coefficient value means that Faculty member 1 has best service quality performance among the others. So, universities should improve their service quality considering these criteria that the students care.

Table 2: Evaluation at level 1

Attribute	Subject Knowledge	Ability of Communication	Discipline	Co-operative	Creative	Mean	Normalized weight
Subject Knowledge	1.00	3.38	5.00	1.11	7.00	2.65	0.28
Ability of Communication	2.47	1.00	3.40	2.73	4.33	2.51	0.26
Discipline	0.22	1.80	1.00	2.51	2.73	1.22	0.13
Co-operative	4.11	2.05	2.71	1.00	5.67	2.65	0.28
Creative	0.15	0.45	2.67	0.17	1.00	0.50	0.05
Total	2.03	3.62	10.67	15.11	25	9.52	1.00

Consistency Ratio = 0.01 <0.10

Table 3: Weights of sub-criteria

Sub-criteria	Weight	Sub-criteria	Weight
C_{11}	0.28	C_{33}	0.08
C_{12}	0.64	C_{41}	0.28
C_{13}	0.07	C_{42}	0.64
C_{21}	0.63	C_{43}	0.07
C_{22}	0.11	C_{51}	0.07
C_{23}	0.26	C_{52}	0.28
C_{31}	0.19	C_{53}	0.64
C_{32}	0.72		

Table 4: Decision matrix using linguistics variables

	T_1			**T_2**			**T_3**			**T_4**			**T_5**			**T_6**			**T_7**		
	D_1	**D_2**	**D_3**	**D_1**	**D_2**	**D_1**	**D_1**	**D_2**	**D_3**	**D_2**	**D_3**	**D_3**	**D_1**	**D_2**	**D_3**	**D_1**	**D_2**	**D_3**	**D_1**	**D_2**	**D_3**
C_{11}	VG	VG	G	G	MG	MG	MG	F	MG	VG	G	F	P	F	MP	G	MG	MP	G	VG	F
C_{12}	G	G	MG	MP	MG	G	MG	F	G	P	G	F	VP	MP	F	MG	F	P	MP	F	P
C_{13}	G	G	VG	MG	MP	MG	MG	F	F	MP	MG	G	P	MP	MG	G	MG	F	MG	P	F
C_{21}	MG	G	MG	G	F	MG	F	MP	P	G	MG	MP	P	MP	F	G	F	MP	MG	VG	MP
C_{22}	G	VG	MG	F	F	MP	MP	MP	F	G	P	MG	F	MP	G	G	F	P	MP	G	F
C_{23}	MG	F	G	F	MP	F	G	MG	G	P	MP	G	MG	G	F	G	P	MP	MG	VG	MP
C_{31}	F	MP	G	F	F	F	F	MG	MG	P	MP	G	VG	G	MP	P	G	MG	VG	MP	F
C_{32}	MP	MP	F	MP	MP	G	F	F	MG	P	VP	G	VG	G	MG	MP	G	P	F	VG	G
C_{33}	MG	F	G	VG	VP	G	F	F	MG	G	MG	F	MP	G	P	F	MG	G	P	MP	G
C_{41}	G	VG	G	MG	MG	MG	MP	F	MP	G	P	MG	VP	F	G	MP	G	MG	P	MG	VP
C_{42}	G	G	VG	F	MG	F	F	G	F	VG	MP	MG	P	G	MP	F	VG	MG	G	VP	P
C_{43}	MG	G	F	VG	VG	G	MP	F	MP	G	MG	P	VP	MP	F	F	G	VG	G	MP	MG
C_{51}	F	F	MG	VG	VG	VG	F	F	MP	P	F	MP	G	MG	VP	VP	MP	P	MG	VG	MP
C_{52}	G	G	F	MG	VG	MG	MP	MP	MP	P	VG	G	F	MP	F	G	VP	P	VG	P	F
C_{53}	G	MG	MP	F	P	MP	VG	MG	F	MP	G	F	P	VP	MG	F	VG	G	MG	MG	P

Table 5: Aggregated decision matrix of TOPSIS method

	C_{11}	C_{12}	C_{13}	C_{21}	C_{22}	C_{23}	C_{31}	C_{32}	C_{33}	C_{41}	C_{42}	C_{43}	C_{51}	C_{52}	C_{53}
T_1	8.33	7.33	7.66	7.66	8	7	6	5.33	7	7.66	7.66	7	6.66	6.66	6.66
T_2	7.66	6.66	7	7	5.66	5.66	6	5.66	6.33	8	6.66	8.33	9	8.33	5
T_3	7.33	7	6.66	5	5.33	7.33	7.33	6.66	6.66	5.33	6.33	5.33	5.66	5	7.66

T_4	7.33	5.66	6.66	6.66	6.33	5.33	5.33	4.66	7	6.33	7.33	6.33	5	6.66	6
T_5	5	4.66	5.66	5	6	7	7	8	5.33	5.33	5.33	4.66	6	5.66	5
T_6	6.66	6	7	6	5.66	5.33	6.33	5.33	7	5.66	7.66	7.33	4	4.66	7.33
T_7	7.33	5	6	7.33	6	7.33	6.66	7.33	5.33	5	4.66	6.66	7.33	6.33	6.66

Table 6: Calculation steps of the TOPSIS method using weights of AHP

	Weighted normalized values							PIS (A^+)	NIS (A^-)
	T_1	T_2	T_3	T_4	T_5	T_6	T_7		
C_{11}	0.12	0.11	0.11	0.11	0.07	0.10	0.11	0.12	0.07
C_{12}	0.29	0.26	0.28	0.22	0.18	0.24	0.20	0.29	0.18
C_{13}	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.03	0.02
C_{21}	0.28	0.26	0.18	0.25	0.18	0.22	0.27	0.28	0.18
C_{22}	0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.04
C_{23}	0.11	0.09	0.11	0.08	0.11	0.08	0.11	0.11	0.08
C_{31}	0.07	0.07	0.08	0.06	0.08	0.07	0.07	0.08	0.06
C_{32}	0.23	0.25	0.29	0.20	0.35	0.23	0.32	0.35	0.20
C_{33}	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
C_{41}	0.13	0.13	0.09	0.10	0.09	0.11	0.08	0.13	0.08
C_{42}	0.28	0.24	0.23	0.27	0.20	0.28	0.17	0.28	0.17
C_{43}	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.03	0.02
C_{51}	0.03	0.04	0.02	0.02	0.02	0.02	0.03	0.04	0.02
C_{52}	0.11	0.14	0.08	0.11	0.10	0.08	0.11	0.14	0.08
C_{53}	0.25	0.19	0.29	0.22	0.19	0.28	0.25	0.29	0.19
d+	0.13	0.16	0.15	0.19	0.21	0.16	0.16		
d-	0.21	0.17	0.18	0.14	0.15	0.16	0.17		
CC_i	0.62	0.52	0.55	0.43	0.42	0.50	0.51		

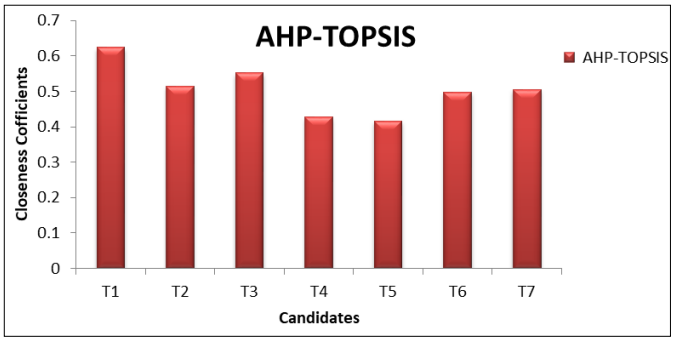

Fig 2: Ranking of the faculty members

6. Conclusions and future work

Assessment of faculty performance in education is very pivotal to enrich their knowledge as well as estimate each individual's contribution to the organization. This activity helps to improve the quality of education system through determining student's opinions and satisfying their wants. Moreover, academic staff having good academic does not mean that he/she is the best faculty in the department. Actually, faculty evaluation process is a multi-staged decision-making problem having both numerical and qualitative criteria. But the proper way of evaluating performance of faculty members for public universities is very rare in Bangladesh. The authority of public universities in Bangladesh has limited its interest only to recruit the best students not to evaluate performance during job life. So, this paper has presented the successful implementation of AHP and TOPSIS methods as an effective tool for evaluating performance of various teaching staff in an academic Institution. The proposed method is also effective in group decision environment study like hospital, manufacturing industry applications etc. where it is found to be difficult to come to a moot point individually. In future studies other models of multi-criteria methods such as ANN or fuzzy MOORA can easily be implemented in similar situations and the results can be compared.

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