Designation and prioritization of parameters Affecting the efficiency of Managerial development

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Abstract:

In current century, the governmental management as other institutions are facing with new challenges in developments, that has root in change in cultural, economic, social and political condition of the world. Since many factors are introduced by researcher that are effecting the efficiency of human resource developments and nature of these factors differ in each country, and since the effect these factors never assessed on Iranian governmental institutes, this research aims to uncover and prioritize the factors that create barrier for managerial development of Iranian governmental institutes using Fuzzy AHP method. The sample of 100 NIOPDC managers are used to gather information needed. Results show that highest criterion that has the most effect on managerial developments is environment, that encompasses the sub criterions such as governmental regulations, supplier conditions and market condition.

1. Introduction:

In current century, the governmental management as other institutions are facing with new challenges in developments, that has root in change in cultural, economic, social and political condition of the world. Afore mentioned criterions usually result in public mistrust and uncertainty in governmental manager's performance and efficiency. (Damijan,joze et al. 2008)

It is clear that each manager is interested to utilize a series of scientific methods and techniques to lead his organization toward the predesignated objectives, However, these managers are not operating inside void and different limitation and forces would exert to organization from the environment surrounding them in which would reduce organization efficiency and performance. (Škerlavaj.M et al. 2010)

Increasing organizational efficiency is one of the main Challenges within organizations and can't be resolved previous preliminary methods, today by increasing the complexity of environment surrounding organizations more sophisticated ways of situational assessment are required. (Gu,Wualong et al. 2004)

This research aims to Designate and prioritize parameters effecting the efficiency of Managerial development within Iranian Natural Gas transfer organization managers.

Research hypothesis (Aims):

1) Which factors are effectively increasing managerial efficiency
2) Ranking of mentioned factors

In this research Based on Achieve model by (Hersey & Goldsmith,1980) a questionnaire is used. Achieve model presented by Hersey and Goldsmith, is a helpful tool for managers in order to designate reasons of organizational problems and consist of factors listed below:

Ability: this dimension points to the skills and knowledge of employees within the organization.
The ability to do jobs assigned in organization.

Clarity: having clear perception toward a job assigned to a person.

Help: Organizational Support to employees in their functions.

Incentive: this dimension points to different direct or indirect rewards that are used in order to create motivation and desire to complete assigned task to employees.

Evaluation: this dimension is related to unofficial or periodical assessments of employee functions.

Environment: this part defines the factors existing in environment that are negatively effecting the function of organizations factors such as governmental regulations, competitors, market condition and supplies.
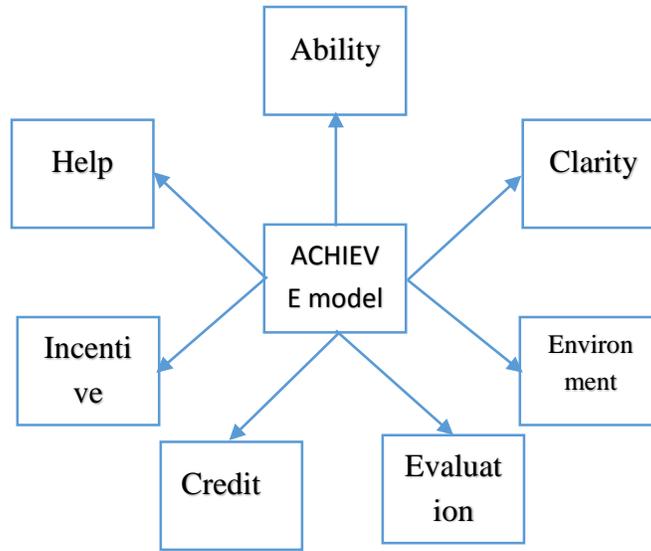
Figure 1: ACHIEVE model
Source: Hersey H, Goldsmith M. 1980

2. Fuzzy AHP

FAHP method is a mathematical approach for selection and ranking problem by using the fuzzy theory and hierarchical structure analysis. In this method, expert can designate priorities in the form of natural language or numerical values about the importance of each Item attribute. (Mihaly, 2007) Then specified preferences are combined with existing data using fuzzy AHP. Within the FAHP method, fuzzy numbers inside Judgment matrix are considered as pairwise comparisons which utilize fuzzy arithmetic and aggregation operators, the process is all about calculation of series of weight vectors in which will be used in selection of main attributes. (Veronika et al. 2010) Figure below shows a sample of FAHP vector.
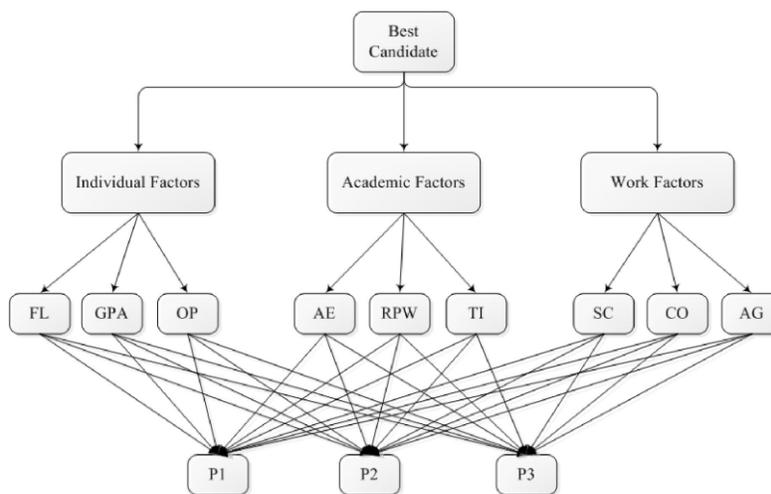

Fig. 2. The hierarchy of the Issues
Source: Zülal et al. 2009 P.641

Following are the summarized steps of FAHP method:

Step 1:
First step is to represent problem assessment in a hierarchical frame. Then each criterion in problem will be given a weight by experts, Weights of each criterion is determined using pair- wise comparison between each two criteria. (Saaty, 1980). In FAHP method, the pair-wise comparison data then are organized in the form of fuzzy triangle numbers.

Step 2: In case, experts cannot determine the preferences of fuzzy triangular form the, they can give preferences linguistic terms, and use look-up tables for correspond fuzzy values.
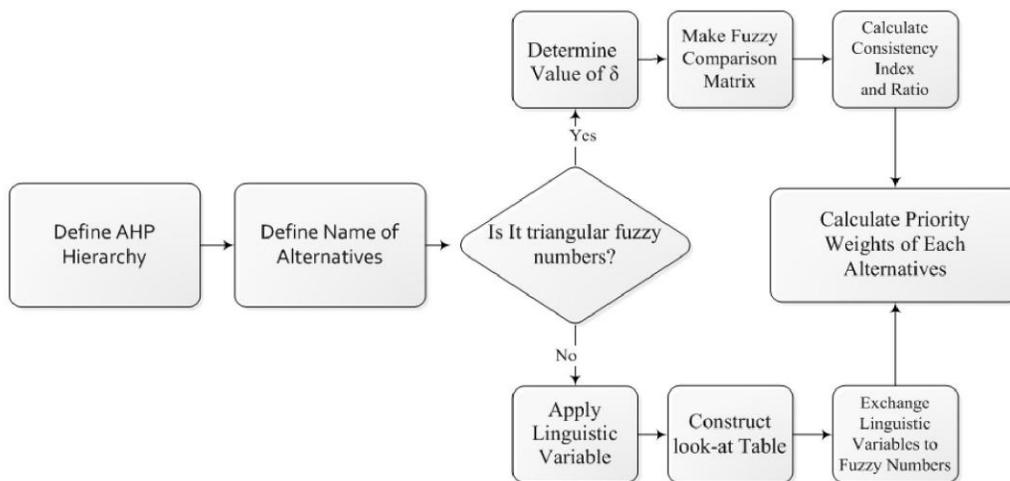
Fig. 2. Steps of fuzzy AHP
Source: Zülal et al. 2009 P.641

Step 3. After preparing hierarchical structure and finishing pairwise comparison of criterions within the problem it is vital to calculate global amount of priority for each alternatives. (Veronika et al. 2010)

3. Research method:

In this research using a self-developed questionnaire specifically designed for this research beside Achieve model, it has been tried to determine factors affecting improvement of managerial functions and prioritize the yielded factors using FAHP method. Managers of 8 Iranian natural gas extraction fields are used as this research's sample. Questionnaire utilized in this research is created in a way that contains the dimensions of this research in which shown in table below:

After acquiring the data from questionnaires, weight and inconsistency of each table is calculated using formulas shown below, the result was 0.06 in which due to being less than 0.1 hence was acceptable value.

$$II = \frac{\lambda \max - n}{n - 1}$$ (1)   inconsistency index

$$IR = \frac{II}{IRI}$$ (2)   Inconsistency rate

4. Research Findings:

This research is implemented over several NIOPDC managers, the normalized matrix of acquired results is utilized and the then from yielded normalized matrix, the average of rows matrix is constructed.

Calculation of average of items in each row yields us weight vector, the process contains the calculation of relative weight of each factor based on data acquired from distributed questionnaire and using geometric mean. Since the values gathered from questionnaire were fuzzy triangular numbers the fuzzy comparison matrix is created and after calculation of inconsistency index and ration the prioritization phase is done. (M. Varmazyar. Et al. 2014)
Based on calculations in this research the relative weight of factors is shown in tables below.

Table 1. Fuzzy model Language numbers

Fuzzy Language	Relative numerical representation
High	(5/2,3,7/2)
Fair	(3/2,2,5/2)
Weak	(2/3,1,3/2)
Equal	(1,1,1)

Table 2. the relative weight of main factors

criterions	ability	Incentive	evaluation	clarity	credit	Environment	Help
Relative weights	0.075	0.045	0.136	0.197	0.203	0.242	0.102

Table 3. inconsistency ratio of main factors.

criterions	ability	Incentive	evaluation	clarity	credit	Environment	Help
Inconstancy ratio	0.05	0.06	0.08	0.04	0.04	0.06	0.06

After pairwise comparison of seven main criterions of this research and calculation of relative weights and utilization of normalization methods for weights of each criterion, final

weight of each variable is calculated, and seven main criterions and the items related to each criterion is prioritized. (Kolasa, et al. 2008). The results are shown in table below:

Table4.Fuzzy Evaluation Matrix

	Environment	Credit	Clarity	Evaluation	Help	Ability	Incentive
Environment	1	5/2	3/2	2/3	3/2	2/5	7/2
Credit	2/3	1	3/2	5/2	7/2	2/3	5/2
Clarity	2/7	3/2	1	3/2	2/3	5/2	2/7
Evaluation	1/2	5/2	2/3	1	5/2	2/7	3/2
Help	3/2	2/7	1/2	5/2	1	2/3	7/2
Ability	1/3	5/2	7/2	2/3	2/5	1	2/7
Incentive	3/2	7/2	½	2/5	2/7	2/3	1

Table 5. prioritization of main factors.

criterions	environment	credit	Clarity	evaluation	Help	ability	Incentive
Relative weights	0.242	0.203	0.197	0.136	0.102	0.075	0.045
Priority	1	2	3	4	5	6	7

5. Conclusion and discussion:

In current century, the governmental management as other institutions are facing with new challenges in developments, that has root in change in cultural, economic, social and political condition of the world. In this research Based on Achieve model by Hersey, Goldsmith a questionnaire is used. then utilizing a self-developed questionnaire specifically designed for this research beside Achieve model, it has been tried to determine factors affecting improvement of managerial functions and prioritize the yielded factors using FAHP method. According to results acquired, based on manager's points of view, the Environment factor has the highest impact on managerial function improvement, this factor contains the sub items such as governmental regulations, working experience, and working knowledge and education. The next important factor is the Credit, which contains the sub factors of lawfulness of managers requests, implementing regulations and lawful decisions of managers. The third priority that calculated was clarity in which contains sub factors such as increasing precision, and customer's satisfaction. The forth main factor designated as evaluation, which contains sub factors such as systematic feedbacks and prioritization of educations. The fifth most important factor designated was help, this factor contains sub items such as adequate budget and suitable working equipment, the sixth factor according to calculations were ability, the sub factors mostly affecting this dimension were tendency

to work and working motivations. The last factor was designated as incentives which contains sub factors such as encouragement and then working rewards.

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