



## Codification and Prioritization of Human Resources Strategies in Approach of SWOT and Fuzzy ANP (The Study of the state bank)

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**Abstract.** In recent years, human resources had been found as a central position among organizations and also they included of strategic factor in order to managing an organization. Making guidance decisions and codifying a strategy in frame of human resources are similar to the designing a strategy in other organizations ; it is necessity to survey external environment and recognizing opportunities and also recognizing environmental treats and also checking internal environment in order to make clear strength and weakness points in this circuit. This research is about surveying internal and external banks' environment and creating SWOT's Matrix is due to arranging the system of human resources strategic of this bank in frame of Fuzzy ANP. The approach of this research is description and useful in order to increase the authenticity of a model. This research had been studied in one of the state bank (Bank Melli Iran (BMI)). Assuming the dependence among strategic factors can substitute a number of priority strategies. In this research, WT had been chosen as a suitable choice. Hence, in this organization should reduce non-essential factors interposition in choosing and appointing managers in order to employ them in the bank and also this research express that it is necessary to revise teaching methods to learning multi skills from scholars and experts. According to creation of some substitutions in "guidance of organizations and groups" the organization should perform and explain among its personnel in context of meritocracy trend.

**Keywords:** Strategy, Human resources, SWOT, Fuzzy ANP

### INTRODUCTION

Managing human resources are a kind of absorption process, employment, teaching and improvement, using and appointment and keeping human resources in order to achieve organizations' purpose [1]. In other definition, managing human resources are especial proficiency that it's trying to provide purposes of organizations and satisfy personnel. In fact, managing human resources are kinds of humanity aspect of management. So there is an important factor owing to promote quality and quantity of production and organization services [2]. This purpose provided human resource and also protected and guided them in order to achieve to final goals and strategic. But today, entering the transition activities requires more roles from the human resources' custodians.

### STRATEGY

Mainly, strategies are tools which can help to a company in order to reach high purposes [3]. Strategies of an organization consists of explaining some plans due to lead usage of an organization and recognizing some provide ways and put specialist sources so that they reach to those purposes[4]. Strategy characterizes some activities in complex and dynamic environment and also strategy is a tool which is caused to enliven human element in one organization trend and it caused to move persons.

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**HUMAN RESOURCES STRATEGY**

Human resources strategy is an instruction for human resources in which human resources tasks find out as outlook and same classification [5]. In this definition, first, we should notice on human resources system rather than its duty; second, we should make difference between explanation of human resources strategy which believe that it can predict future and also human resources strategy which is based on old ways and they are without instructress [6]. Hence, the purpose of the codifying and doing human resources strategy are make communication between politics and human resources' ways in frame of human resources strategic [7].

So, the organization can make internal coordination among under systems of human resources; besides organization should make external coordination among human resources strategies, too. [8].

Managing human resources strategic are consists of: universal forethoughtful, innovation, arrangement transition in order to provide and train and improve humanity organization. Therefore managing human resources strategic an create quality of life as an acceptable way. Finally, with using of this strategic correctly and efficiently; we can recognize effective aspects in internal and external organization in order to explain purposes of the organization [9].

**SWOT MODEL**

There are many skills which use in managing strategic process among those analyses of SWOT used as a common technique. It is a kind of useful tool in which all parts can explain acceptable strategies in different situations of an organization like human resources. Analyzing of SWOT is an important supportive tool in order to make decisions. It usually use as a tools for analyzing internal and external trend of an organizations [10]. SWOT is the reduction of four terms strengths, weakness, opportunities and treats. In this analysis, strengths and weaknesses are included of internal factors of an organizations and opportunities and treats are consisted of external factors of an organization. Internal strength and weakness points are included of controllable activities of an organization in which an organization did them very excellent or very weak. They create in the shadow of management activities inside an organization for instance, human resources management, financial management, and research and developmental unit and production management and operating. One of the main activities in strategic management is finding and revising strength and weakness points in some units of organization [11]. choosing suitable strategies according to internal and external factors acquire below Matrix chart which included internal and external factor.

**1<sup>th</sup> Chart**

Although, using appropriate and reasonable of SWOT can be a good base in order to adopt

Weak Weakness should list	Strong Strength should list	
Strategy wo	Strategy so	Opportunity Opportunities should list
Strategy wt	Strategy st	Treat Treatments

strategies efficiently, but it couldn't be without weaknesses in measuring steps [11]. Therefore, analyzing SWOT completely couldn't account strategic decisions process of the organization. This essay is a kind of practical research in which used quality and quantity techniques owing to explain and account organization's strategies.

**FUZZY COLLECTION**

Generally, data which received from humans called Fuzzy information. According to Lotfi Zadeh's expressions the main reason for using words and sentences instead of numbers is that there is an unlimited verbal description for numbers. The different between verbal variable and numerical variable don't refer to their numerical values but it refers to the words and sentences. Using of verbal variable; it may provide modeling of accurate sentences which are not accurate exactly like, "very important" or "less important". Fuzzy logic provides a decision with estimated values according to the incomplete and entrusted data [12].

If X (the true value) was a member of S function (reference); so, one of membership from S, Fuzzy function, ( $\tilde{A}$ ), is shown as an ordered pair like this form:

$$\tilde{A} = \{(X, \mu_{\tilde{A}}(X)) | \mu_{\tilde{A}}(X) \in [0,1]\}$$

Therefore,  $\mu_{\tilde{A}}(X)$  shows that function membership (degree of membership) X belongs to the (Type equation here.  $\tilde{A}$ ) function. Not only degree of membership is not important as absolute things but also it is consciously and it depends on concept of function.

If S function or xi were assumed in order to show xi's membership to the function; we have:  $x_i \in S$

In order to show that xi's membership to the S function; it is possible to use other concept as membership function which is called:

Another concept as membership function is called:  $\mu_S(X)$

$$\left| \begin{array}{l} \mu_S((X_i)) = 1 \xrightarrow{IF} X_i \in S \\ \mu_S(x_i) = 0 \xrightarrow{IF} x_i \notin S \end{array} \right.$$

Imagine that function i.e.  $\mu_S(X)$  can substitute in amplitude [0.1]; now. We accept these definitions [13]:

$$\mu_S(x_i) = 0 \rightarrow x_i \notin S$$

- (X<sub>i</sub>) is at least a member of S  $\rightarrow$  value of (x) is close to zero.
- (X<sub>i</sub>) is often a member of S  $\rightarrow$   $\mu_S(x)$  is a little close to zero.
- (X<sub>i</sub>) is always a member of S  $\rightarrow$   $\mu_S(x)$  is close to one.

$$\mu_S(x_i) = 1 \rightarrow x_i \in S$$

Each Fuzzy function  $\tilde{A}$  can be a Fuzzy number if:

1).  $\mu_{\tilde{A}}(x)$  is a kind of mapping which always are from R to the [0, 1].

$$\mu_{\tilde{A}}(x): R \rightarrow [0,1]$$

2).  $\mu_{\tilde{A}}(x)$  is convex i.e.:

$$\mu_{\tilde{A}}(\lambda X_1 + (1 - \lambda)X_2) \geq \min\{\mu_{\tilde{A}}(x_1) \wedge \mu_{\tilde{A}}(x_2)\}$$

3).  $\tilde{A}$  is normal. That means XO exist in shape of:

$$v(M_2 \geq M_1)$$

Each Fuzzy word is described in its field. Each person may describe it according to its sensitive degree (size of backrest may be large or small) [14].

One Fuzzy function is type of purposes with continuous degree of membership. That function shows that one membership function is for each purpose so there is one degree between zero and one. There are different types of Fuzzy numbers; two useful and common parts are Fuzzy number triangle and trapezoidal. Because, triangular Fuzzy numbers are more common and simple; they used mostly in researches. Hence, in this research, it is used in this research, too.

**FUZZY ANALYTIC HIERARCHY PROCESS**

The basic of analytic hierarchy process; it was invented by Thomas L.Saaty which was about pair wise comparisons. These comparisons recognize weight of each factor according to antagonist's choices. One of Chinese researcher is Chang expressed one way which was included development analysis path (EA) in order to specify weight of pair wise comparison on Matrix in 1996. Triangular Fuzzy numbers (TFN) are explained according to the description of Fuzzy analytic hierarchy process i.e. (EA) in continues concept.

If we consider two triangular Fuzzy numbers  $M_1 (l_1, m_1, u_1)$  and  $M_2 (l_2, m_2, u_2)$ , so:

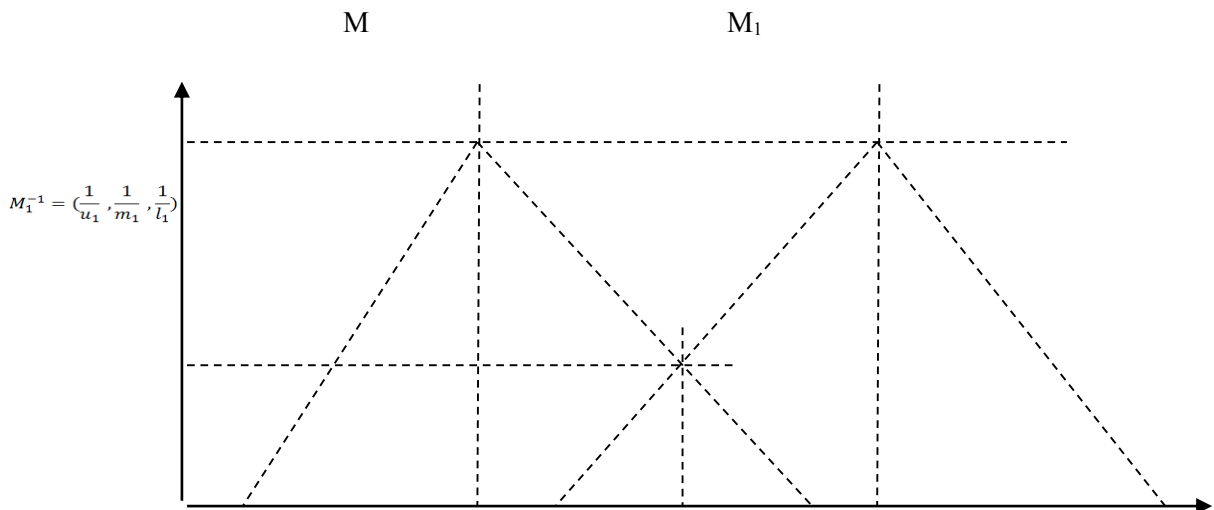


Figure 1. Display of two triangular Fuzzy numbers.

$$\mu_{\tilde{A}}(X_0) = 1$$

In EA way; each rows of pair wise comparison on Matrix show as value of  $S^k$  which is kind of triangular number:

$$S_k = \sum_{i=1}^n M_{kj} \oplus \left[ \sum_{i=1}^n \sum_{j=1}^m M_{ij} \right]^{-1}$$

In this way, K is instead of number of row, i and j is instead of index. After each calculation of  $S_k$ ; we should compute the enormous degree of them among themselves. If  $M_1$  and  $M_2$  will two triangular numbers, it is described according to three enormous degree of  $M_1$  and  $M_2$  like:

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$$V(M_2 \geq M_1) = \text{hgt}(M_1 \cap M_2) = \mu_{M_2}(d) = \begin{cases} 1, & m_2 \geq m_1 \\ 0, & m_2 \geq m_1 \\ \frac{l_1 - u_2}{(m_2 - u_2) - (m_1 - l_1)}, & \text{Otherwise} \end{cases}$$

Measure of enormous degree of one triangular Fuzzy number from K; we can get another triangular Fuzzy number from this connection:

$$V(M \geq M_1, M_2, \dots, M_k) = V(M \geq M_1), V(M \geq M_2), \dots, V(M \geq M_k) \\ = \min_{i=1,2,\dots,k} V(M \geq M_i)$$

Also, in order to counting weight of each pair wise comparison on Matrix's index; we can follow this formula:

$$W(x_i) = \text{Min}\{V(S_l \geq S_k)\} \quad k = 1,2,\dots,n \quad k \neq i$$

Therefore, the vector of weight for each index will be:

$$W = [w(x_1), w(x_2), \dots, w(x_n)]$$

So, it is the same coefficients of the non-normal vector (AHP). We can reach to this formula normalizes according to this connection:

$$W = \frac{w_i}{\sum w_i}$$

**RESTRICTIONS ON THE ANALYTIC HIERARCHY PROCESS**

In AHP, there is an imagination in which scales are independence and there aren't any dependence among them, hence, AHP is a restrict form [15].

**ANALYTIC NETWORK PROCESS**

Analytic network process (ANP) is a complete and strength way in order to make accurate decisions in context of experimental information or in context of individual judgments which used by each person, so they are one model based on mathematics and mental humanity algorithm and also they adopted with human mental structures in order to make decisions. This theory is a type of interdisciplinary way in which is used pair wire comparison Matrix in order to achieve to the relative scales [16].

Analytic network process had been made of the analytic hierarchy process; in this way is shown some internal effects among choices and scales.

**SYNTHESIS OF ANP AND SWOT**

Just, one organization can use appropriate from its opportunities which it used its equipments and abilities in order to reach success; if it wouldn't happen; opportunities will be missed or they will be belonged to the antagonists[17]. There is similar connection between treats and strength points. The ability of overcoming with treatments is depends on the organizations' strength point of. One strong organization can use its strength points in order to omit dangerous effects of environmental treats. The connection between strength and weakness can explain in this way:

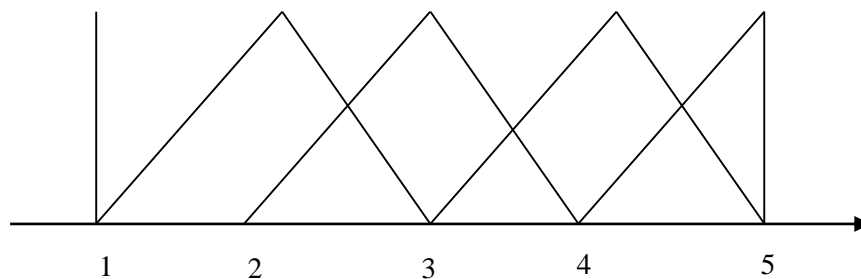
Organizations with more ability points have fewer weaknesses, so they wouldn't face with weak situations. Among those strategic factors; the combinations of two other varies with internal dependence are combination of treat-weakness and opportunities-weakness. Weak organizations may hurt mostly from present treats in contrast with antagonist organizations.

Therefore, organizations should pay attention to the weakness points and environmental treatments when they defined those strategic. It is difficult to use appropriate and effective from opportunities for an organization which has various weakness points.

If organizations have suitable abilities and enough facilities, they can use their opportunities well [18]. If they don't have those abilities, they wouldn't use external environmental opportunities [19]. According to the above paragraphs, not only analyzing factors of SWOT aren't separated from each other, but also sometimes there have some connections and dependence among some factor. Hence, the counted weight which was earned from traditional way and we assumed it as independent factor, so, there will different if we compare this weight of factor as dependence one. Possible Changing in factors' weight is caused to change in strategic arrangement, so these changes will influence other strategic by itself. Therefore, it is obvious that we should be accurate in order to revise and measure factors. Besides Synthesizing of ANP and SWOT way, we can use Fuzzy. The Fuzzy ANP way is a kind of systematic attitudes in order to choose cases and judge problems which is used by theoretical Fuzzy concept and Analytic network process. Researchers found out that analyzing of distances is more accurate than analyzing of fix value. Qua and his coworkers expressed a decision system of Fuzzy AHP in order to choose rest place. Jung and his coworkers also expressed a way which was MCDM based on trapezoid Fuzzy AHP and correction numbers. In this study, analyzing of SWOT had done by using Fuzzy ANP and had noticed on possible dependence among factors.

**IMPLEMENTATIONS' STEPS OF ANP**

*First step, creating model and explain subjects:* in modeling; we recognize purposes of making decisions and possible choices. In AHP, the connection between purpose and scales and choices are linear and one strain [20]. The choice is not influenced on scales and vice versa. The opening structure analytical ANP provide us to classify various scales without paying attention to transposition of scales [21].*Second step, doing pair wires comparison and measuring the vector:* In this step, some paired comparisons were doing in order to reach the importance factors and scales which are effective to choose the purpose. Some Fuzzy spectrums are used in this research because of using verbal judgment. It is necessity to use a measure in order to turn verbal judgments to Fuzzy number. The usage of Fuzzy spectrums is to determine degree of cases importance among each other in Pair wise comparison Matrix in ANP like this form:



**Figure 2.** Fuzzy spectrums are ways to determine the importance factors in Pair wise comparison Matrix.

2<sup>th</sup> -chart is determining the importance factors in Pair wise comparison Matrix.

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*Fuzzy spectrums (2)*

Verbal importance measure	Measure of Triangular Fuzzy	The converse measure of Triangular Fuzzy
equal	(1, 1, 1)	(1, 1, 1)
important	(1, 1, 2)	$(\frac{1}{2}, 1, 1)$
Less important	(1, 2, 3)	$(\frac{1}{3}, \frac{1}{2}, 1)$
More important	(2, 3, 4)	$(\frac{1}{4}, \frac{1}{3}, \frac{1}{2})$
The most important	(3, 4, 5)	$(\frac{1}{5}, \frac{1}{4}, \frac{1}{3})$
Completely important	(4, 5, 5)	$(\frac{1}{5}, \frac{1}{5}, \frac{1}{4})$

**Third step, doing pair wire comparison owing to internal dependence reactions:**

In this step, we should measure internal weight of scales or under scales which were determined in modeling step. In this step like previous step; we have pair wire comparison Matrix in contrast of expressing internal dependence reactions.

**Fourth step, create Super Matrix:**

Super Matrix is used in order to analysis internal dependence among member of system. Super Matrix is a kind of composed Matrix in which each corolla Matrix shown some internal connection between collections by determiner. The memberships of Super Matrix are made of internal pair wise comparison dependent and they are replacing with them. Each value of non-zero in Super Matrix column shows the importance of weight which had earned by pair wire comparison Matrix and internal dependent.

**Fifth step, choosing best decision:**

In this step, the final decision will be made if general weight of each replacement multiplied by present weight. In context of this research is a kind of description research in which events had happen before or they are existing now, so researcher chose different suitable viral in order to analysis connection between them and he tried to find answers of his questions. In consider of purpose, this research is useful because it is tried to extend human resources acknowledges and also the consequence of this research is useful in order to study human system program and to make decisions. In consider of way, this research is analytical description and it's kind of practical research. Making guidance decisions and explaining strategic in human resource field is similar to the designing strategies in other fields is necessary to revise external environment and to determine environmental opportunities and treats to do internal experiment in order to make clear strength and weakness points.

The research's zone

Bank Melli Iran (BMI) Central province is considered as the position for this research.

**Subjective zone**

We classify strategic steps and human resources and arranging them according to Fuzzy situation and we used some SWOT tools in order to make guidance decisions.

### *Ways and Tools for Gathering Data*

At first, by studying books, essays, thesis, internet journal and so on; we gather connective literature with subjects and then we do research by using interview and questionnaires.

First, there was a group which had experts who could recognize some extra effective controllable and uncontrollable factors to analyze external and internal environment of an organization. Extra factor have guidance important. So, replacement strategies made of extra factor of SWOT and SWOT's Matrix. First chart is shown that each organization has four strategies. The concept of SO strategy is using opportunities appropriate in frame of using strength points of organizations. WO strategy is following useful opportunities according to the weakness of organization. ST strategy is a kind of strategy to remove treatment environmental effects in frame of using strength points and finally WO strategy will reduce environmental treats in consider of weakness points. Internal and external environmental factors and first questioners were determined by bank's management and experts according to the Delphi way.

**3<sup>th</sup> Chart, SWOT matrix for the bank**

<u>Weaknesses index (W)</u>	<u>Strength index(S)</u>	<u>Internal factors</u>
1. There is no attention to choose sufficient trend. 2. There are not any humanity combination or tactics skills among employees. 3. Paying employees compensation don't related to their beneficent work. 4. There is no attention to effective factors which cause stress among employees. 5. There is no attention to reduce stress among them. 6. There is no attention to create motivation among employees. 7. There are some challenges among employees to choose their duty.	1. In employing personals, people who caused to banks' promotion should admit. 2. It should be adoption among memberships in human resources trend managements. 3. Teaching some ways to improve banks' personals. 4. Creative and innovation should be done in a bank. 5. Personals should do their work in an organization. 6. It should be controlled personals work. 7. Bank should pay attention to provide comfortable and facilities in their personal life. 8. It is necessity for managers to pay attention to their personal satisfactory.	<u>environmental factors</u>

### **-Validity**

Validity is a kind of measurement tools which can measure special feature which meaning is correction [22].

Validity of questionnaire was emphasized by knowledgeable team.

### **-Reliability**

The ability of a tool to protect itself reliability in durations are shown that it is not changeable. This ability emphasized on value of the tool which has fix consequences in each time [23].

One way to measure reliability questionnaires is using of Coronbachs Coefficient Alpha and it emphasized on internal homological and also it can measurable by using SPSS software. This Coefficient is reached by this formula:

$$r_a = \frac{k}{k-1} \left( 1 - \frac{\sum S_k^2}{S^2} \right)$$



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<p><b>2<sup>nd</sup> region</b></p> <p><i>Using scores in opportunities in order to recompense weaknesses.</i></p> <p>-It is important to provide sport time and suitable sport equipments due to reduce stress as the best way.</p> <p>-Create a compensation system.</p> <p>-Provide a suitable way for employee's promotion.</p> <p>-Explaining their duty for each employee's obviously.</p> <p>-It is necessary to pay attention to justify in the organization in the context of compensation, information and so on.</p>	<p style="text-align: center;"><b>1<sup>st</sup> region</b></p> <p><i>Using opportunities according to use strength(SO)</i></p> <p>-Make arrangement plan in order to introduce good employees to another and clients constantly done in all parts of Bank Melli Iran.</p> <p>-It tried to promote educational system to grow strategic managers in order to accept competitions score.</p> <p>-Revising organizational culture due to extend creative thoughts.</p> <p>-Recovering organizational culture and replacing other positions like organization and strategy because of promoting the bank to reach organizational strategy.</p>	<p style="text-align: center;"><b>Opportunities index(O)</b></p> <ol style="list-style-type: none"> <li>1. The organizational culture is known for bank's employees.</li> <li>2. The organizational culture affected on employees' activities and controls them.</li> <li>3. Bank pays attention to retirements laws.</li> <li>4. Being loyal has the most importance among bank's employees.</li> <li>5. The employees called the bank as an enormous one.</li> </ol>
<p style="text-align: center;"><b>4<sup>th</sup> region</b></p> <p><i>Reducing losses treatments and weaknesses.</i></p> <p>-Reducing irrelative factors in order to involve treats in employing in a bank.</p> <p>-Using master and experts in frame of changes in "leading an organizations and group" and explain * trend.</p> <p>-Changing in teaching way to learn poly skills and use employments' knowledge.</p>	<p style="text-align: center;"><b>3<sup>th</sup> region</b></p> <p><i>Using strength to prevent treatments (ST)</i></p> <p>-It is necessary to pay attention irrelative factors and admiring employees to be accurate and also it's better to use beneficent experts.</p> <p>-Create scientific corn among employments whether internal or external changes in a bank which refer to human resources.</p> <p>-Shifting education to learning behaviorist management.</p> <p>-Revising and studying in employments' need.</p> <p>-Revising and studying teaching managers due to promote management's acknowledge.</p>	<p style="text-align: center;"><b>Treats index(T)</b></p> <ol style="list-style-type: none"> <li>1. There are some irrelative factors in employing the person.</li> <li>2. They don't use college scholars in employing personals.</li> <li>3. There is not attention to bank's changes which is related to human resources.</li> <li>4. The programs in bank don't be update for employees.</li> </ol>

In this formula,  $K$  is a number of questionnaires;  $S^2_k$  is Variance of  $K$  and  $S^2$  is the whole Variance. If the percent which got is close to % 100; it shows the questionnaire is trustful. It is obvious that Coronbachs Coefficient Alpha less than %60 are weak. The acceptable amplitude is %70 and the best amplitude is more than %80. So, it's better to amplitude be close to one [24].

The consequence of questionnaire in this research is **0.864** which shows the reliability of this tool.

**4<sup>th</sup> chart shows amount of Coronbachs Coefficient for questionnaire**

Reliability Statistics	
Coronbac <sup>h</sup> s Alpha	N of Items
0.864	33

***Society and statistic model***

The statistic societies in this research are 18 people who are Bank Melli experts and they aware of the human resources and external and internal environments.

Statistic model of this research is 18 people because of insufficiency weight of a society. The whole frame of this research is consists of:

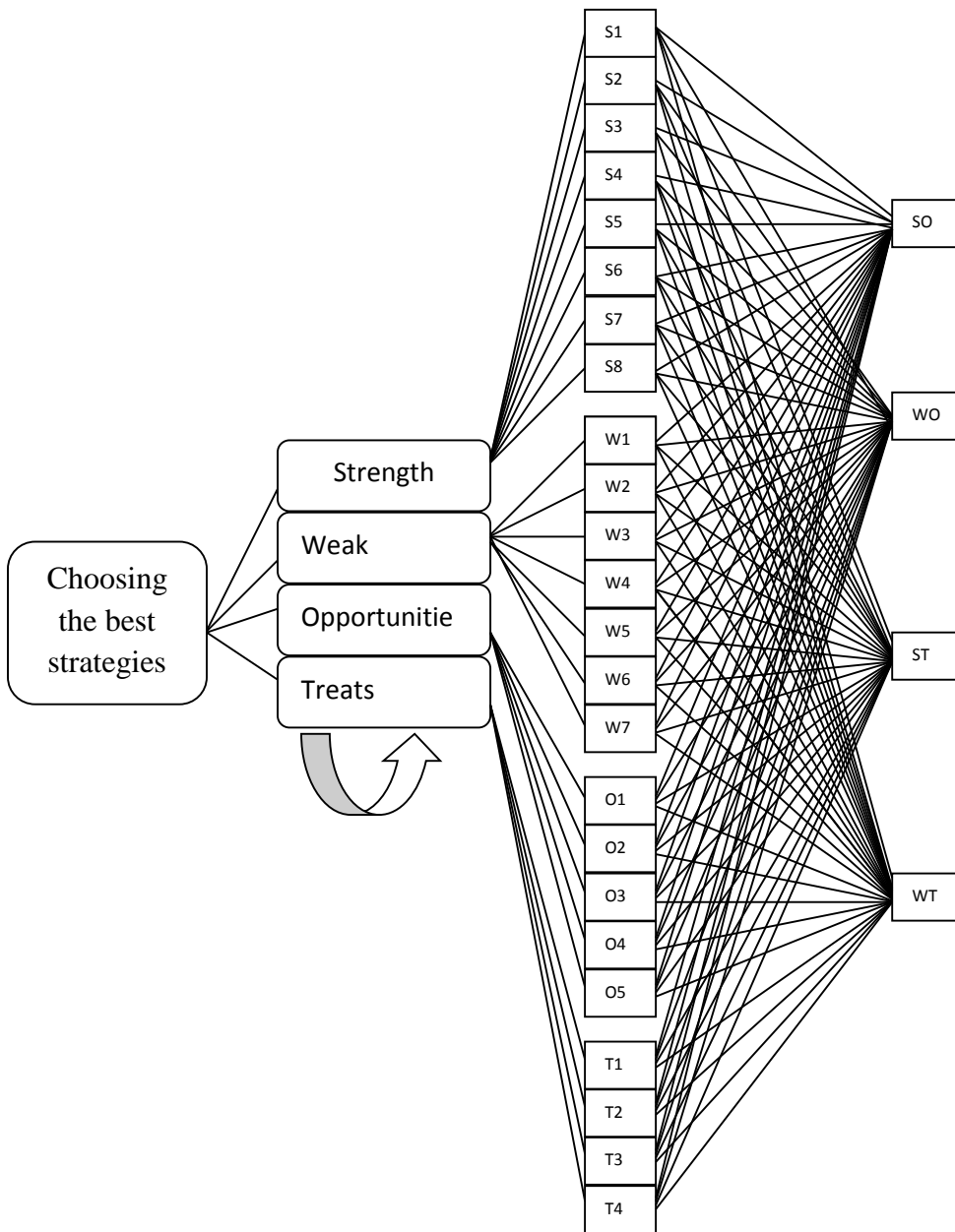
***-Create experts team***

At first, a group consists of experts people made and then the way of this research explained to them in order to have coordination in research's steps.

***1<sup>st</sup> step***

At first, we classify the subject as ANP model. This model is made of four levels. First level is refer to choose best strategies and second level is refer to main factor in analyzing SWOT. And subplots of SWOT are in third level. This level consist of 8 subplots as strength points, 7 subplots are in weakness points, 5 subplots are for opportunities, and 4 subplots are for treats. The last level is expressed some strategies. The model is shown in below shape:

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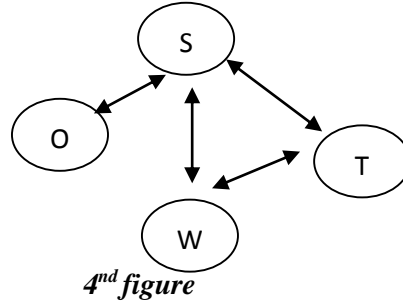
**3d figure, ANP model for SWOT**

2<sup>st</sup> step, we imagine that there is not any dependence among SWOT Matrix so according Fuzzy logic pair wire comparison were made by knowledgeable teams main factors for importance degree.

Main Factors	s	w	O	T	weight
s	(1,1,1)	$(\frac{1}{4}, \frac{1}{3}, \frac{1}{2})$	$(\frac{1}{4}, \frac{1}{3}, \frac{1}{2})$	(1,1,2)	0.1164
w	(2,3,4)	(1,1,1)	(1,1,2)	(1,1,2)	0.3501
o	(2,3,4)	$(\frac{1}{2}, 1, 1)$	(1,1,1)	(1,2,3)	0.3903
t	$(\frac{1}{2}, 1, 1)$	$(\frac{1}{2}, 1, 1)$	$(\frac{1}{3}, \frac{1}{2}, 1)$	(1,1,1)	0.1432

**5<sup>th</sup> Chart**

3<sup>st</sup> step The mutual dependence among main factors is given after analyzing internal and external environmental organizations which is shown in 4<sup>nd</sup> figure. For example, in frame of this question ' How much weaknesses are important in contrast of opportunities in order to control strengths' according to 4<sup>nd</sup> chart which is shown in this research. Hence, opportunities are affected by strength, so no pair wires comparison Matrix create in shape of opportunities. There is mutual connection among main factor as 4<sup>nd</sup> figure.



Strength	W	O	T	weight
w	(1,1,1)	(1,1,2)	(1,1,2)	0.7041
o	$(\frac{1}{2}, 1, 1)$	(1,1,1)	$(\frac{1}{3}, \frac{1}{2}, 1)$	0.1267
T	$(\frac{1}{2}, 1, 1)$	(1,2,3)	(1,1,1)	0.1692

**6<sup>th</sup> Chart**

Weaknesses	S	T	weight
S	(1,1,1)	(2,3,4)	1
T	$(\frac{1}{4}, \frac{1}{3}, \frac{1}{2})$	(1,1,1)	0

**7<sup>th</sup> Chart**

treats	S	W	weight
S	(1,1,1)	(1,2,3)	0.6924
w	$(\frac{1}{3}, \frac{1}{2}, 1)$	(1,1,1)	0.3076

**8<sup>th</sup> Chart**

4<sup>st</sup> step, the importance of mutual dependence weight of the main factors is reached by multiplying Matrix with main dependence factors. We can calculate mutual dependence weight in this way:

$$\begin{vmatrix} 1 & 0 & 1 & 0.6924 \\ .7041 & 1 & 0 & 0.3076 \\ 0.1267 & 0 & 1 & 0 \\ 0.1692 & 1 & 0 & 1 \end{vmatrix} \times \begin{vmatrix} 0.1164 \\ 0.3501 \\ 0.3903 \\ 0.1432 \end{vmatrix} = \begin{vmatrix} 0.6058 \\ 0.5094 \\ 0.4050 \\ 0.5129 \end{vmatrix}$$

5<sup>st</sup> step, in this step the importance of Secondary factors of SWOT are calculated by pair wire comparisons which final consequence has already mentioned in 9<sup>th</sup> chart.

6<sup>st</sup> step, in this step, general secondary factors' weight (WG) are obtained in frame of multiplying main factors with relative weights; secondary factor (9<sup>th</sup> chart). The vector of relative weights of secondary factors is shown in 9<sup>th</sup> chart:

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General weight of secondary factors	Relative weights of secondary factors	of secondary factors SWOT	Relative weight	Main factors of SWOT
0.0851	0.1405	S1		
0.1329	0.2195	S2		
0.0575	0.0951	S3		
0.1273	0.2102	S4	0.6058	strength
0.0061	0.0101	S5		
0.0681	0.1125	S6		
0.0451	0.0746	S7		
0.0832	0.1375	S8		
0.0109	0.0214	W1		
0.0968	0.1901	W2		
0.0652	0.1281	W3		
0.0506	0.0994	W4	0.5094	weaknesses
0.1156	0.227	W5		
0.0695	0.1366	W6		
0.1005	0.1974	W7		
0.0572	0.1414	O1		
0.1035	0.2556	O2		
0.0794	0.1961	O3	0.4050	Opportunities
0.0085	0.0211	O4		
0.1562	0.3858	O5		
0.0774	0.1511	T1		
0.1444	0.2816	T2	0.5129	treats
0.2113	0.4121	T3		
0.0796	0.1552	T4		

*Chart 9<sup>th</sup> general weight of secondary steps SWOT*

7<sup>st</sup> step, in this step we can calculate replacements and strategies in frame of each secondary factors of SWOT according to pair wires comparisons Matrix.

So, in this research, we don't mention them because of their enormous numbers. For instance, two pair wires comparisons 7 and 18 are mentioned and also other final consequence of secondary factors are mentioned in below Matrix.

S7	s	w	o	T	weight
s	(1,1,1)	(3,4,5)	(1,1,2)	$(\frac{1}{3}, \frac{1}{2}, 1)$	0.3463
w	$(\frac{1}{5}, \frac{1}{4}, \frac{1}{3})$	(1,1,1)	$(\frac{1}{3}, \frac{1}{2}, 1)$	$(\frac{1}{3}, \frac{1}{2}, 1)$	0.0537
o	$(\frac{1}{2}, 1, 1)$	(1,2,3)	(1,1,1)	(1,1,2)	0.2759
T	(1,2,3)	(1,2,3)	$(\frac{1}{2}, 1, 1)$	(1,1,1)	0.3241

**10<sup>th</sup> Chart**

O3	s	w	o	T	weight
s	(1,1,1)	(1,1,3)	(1,1,2)	(1,2,3)	0.3008
w	$(\frac{1}{2}, 1, 1)$	(1,1,1)	$(\frac{1}{3}, \frac{1}{2}, 1)$	(1,2,3)	0.2457
o	$(\frac{1}{2}, 1, 1)$	(1,2,3)	(1,1,1)	(2,3,4)	0.3497
T	$(\frac{1}{3}, \frac{1}{2}, 1)$	$(\frac{1}{3}, \frac{1}{2}, 1)$	$(\frac{1}{4}, \frac{1}{3}, \frac{1}{2})$	(1,1,1)	0.1038

11<sup>th</sup> Chart

$$W = \begin{bmatrix} .2415 & .0215 & .1501 & .2141 & .4101 & .2112 & .3463 & .2415 & .1198 & .5101 & .3116 & .3094 & .2444 & .0815 & .5102 & .3155 & .1101 & .3008 & .2545 & .0518 & .1947 & .3027 & .1084 & .2243 \\ .2501 & .1411 & .0120 & .4188 & .3011 & .0510 & .0537 & .0415 & .3441 & .0240 & .1109 & .2805 & .0125 & .0414 & .2416 & .6102 & .0021 & .2457 & .1299 & .3622 & .0514 & .0114 & .2740 & .1514 \\ .0151 & .3022 & .0511 & .1284 & .2210 & .2361 & .2759 & .3621 & .1156 & .1410 & .1748 & .0215 & .6601 & .0551 & .1288 & .0556 & .1341 & .3497 & .3651 & .0321 & .2799 & .2519 & .1202 & .0358 \\ .4933 & .5352 & .7868 & .0387 & .1604 & .5017 & .3241 & .3549 & .4205 & .3249 & .4027 & .3886 & .0830 & .8220 & .1194 & .0187 & .7536 & .1038 & .2505 & .5539 & .4740 & .4340 & .4974 & .5885 \end{bmatrix}$$

8<sup>th</sup> step: generally a final decision replacement strategy is obtained according to this calculation:

$$W_A = W \times W_G = \begin{bmatrix} 0.4463 \\ 0.3712 \\ 0.4393 \\ 0.6279 \end{bmatrix} = \begin{bmatrix} SO \\ WO \\ ST \\ WT \end{bmatrix}$$

**CONCLUSION**

In recent years, human resources have found a suitable position among organizations and they also mentioned as strategic factor in order to manage the organizations.

Making guidance decision and explaining strategic in human resources are necessary to revising external environment and recognizing opportunities like designing some strategic in other organizations and doing internal revision in order to make clear weaknesses and strengths.

This research has been done according to internal and external revision of the bank and making SWOT Matrix according to classification of human resources system of the organization based on ANP Fuzzy. One of the main problems with these ways is introduced in this research in classifying strategies is ignoring effects of some factors among each other and also there is not any trustful for pair wire comparison Matrix, so it makes a question in our mind about ‘ the revision consequences credits. Therefore, for solving this problem the Fuzzy model [F (ANP)] which have some ways to make decision. In order to obtain standard weight efficiently have used to choose strategic. In this research, we used ANP technique due to measure mutual dependence among factors.

This model consists of four levels in which the first level is the purpose (choosing the best strategy) 2<sup>nd</sup> level is main factors of SWOT. 3d level is secondary SWOT factors and the last level is consists of four replacement strategies. There is an ascension that there would dependence among strategy and the degree of strategies classification have changed.

In this research (WT) is chose as suitable choice. Hence, the organization should reduce other factors irrelative involvements in choosing process and choosing managers in banks’ occupation and also in this research expressed the necessity of revision in teaching methods in order to teach employees to use multi skills in their jobs by using knowledge of the masters and experts by noticing to some changes which are made in (leading organizations and groups) and extending meritocracy among employees.

## Codification and Prioritization of Human Resources Strategies in Approach of SWOT and Fuzzy ANP (The Study of the state bank)

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