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Applying Multi-Criteria Decision-Making (MCDM) Methods for Economic Ranking of Tehran-22 Districts to Establish Financial and Commercial Centers (Case: City of Tehran)

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Abstract: One of the most important effective factors on more profit and success in financial and commercial activities is the place and geographical location of establishing that activity In order to achieve this important issue, we require exact locational information needing much cost and time. Thus, economic ranking of urban areas can make economic status of urban areas clear for managers. This research aims to identify economically talented areas leading to exact locating of commercial and financial centers based on their priority. This research is descriptive-analytical. Data were collected by documentary method. Statistical population includes Tehran's 22 districts ranked based on 9 indicators. Therefore, at first, the weight of effective indicators was extracted by using Entropy method. Then, Tehran's 22 districts were ranked economically by using four techniques of MCDM including SAW, TOPSIS, VIKOR, and LINEAR ASSIGMENT. Given the results of implementing above-mentioned methods were not compatible with each other, in order to reach a consensus for ranking the districts, integration techniques (Poset) that includes average rating method, Borda and Copeland were used. Finally, districts 6 and 3 were identified as the most economical ones.

Keywords: Urban Economy, Financial and Commercial Centers, Ranking, Multi-Criteria Decision-Making (MCDM), Integration Techniques
JEL Classification: R58, R52, R12, R14, R15

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1- Introduction

Local and regional relative capabilities and abilities are always different due to the impact of various economic, social and environmental factors, and this makes some areas more advantageous than other areas. In this way, the recognition of local and regional advantages and abilities is considered as the fundamental principles of development planning, and scientific development strategies are also meaningful in explaining the status quo. This complexity of relationships in places and in different environments produces different effects and actions (Taherkhani, 2007).

The purpose of this research is to prioritize the 22 areas of Tehran economically to establish financial and commercial centers. Considering that SAW, TOPSIS, VIKOR, LINEAR ASSIGNMENT methods have been used to rank very well, and the combination of these methods has not been considered much, it was decided to implement this type of rating in this research. Thus, the obtained indexes and numbers of Ashoornejad & Faraji (2014) entitled "economic ranking of 22 districts of Tehran to prioritize the deployment of financial and commercial centers using a multiplicity rating and decision-making method" were used in this research. After data extraction, the weight of the indices was calculated using Shannon entropy method. Then, using SAW, TOPSIS, VIKOR, and LINEAR ASSIGNMENT decision methods, the 22 regions were ranked. Because each of these methods displays a different ranking, the compilation techniques that comprise average rankings, Brada and Copeland are used to obtain the final ranking.

2- Literature Review

a) Foreign Researches

Şengül et al., (2015) in a research entitled "Economic Renewable Energy Systems Ranking in Turkey by Fuzzy TOPSIS" acknowledged that multi-criteria decision-making techniques are among the most popular methods for rating, and the Turkish government must invest in these systems in light of the priorities of the renewable energy sector.

Kärrholm et al., (2014) studied settlement of retail areas at city level and argued that spatial inequalities in cities and the need for social justice in the enjoyment of all citizens of public services should be considered in urban management and planning, and urban areas should be prioritized in the establishment of retail centers.

Benning (2013) investigated the most suitable place for the establishment of financial institutions in the municipality of Obuasi. In this study, AHP method was used to analyze the structure of the problem of locating the facility and to determine the weight of the criteria and options, as well as PROMETHEE II ranking method for obtaining a complete rating.

Yong (2006) presented a new TOPSIS approach, suitable for selecting the plant's place in the environment by ranking the location of the options, with different weight indicators.

Chou (2003) presented a new approach to addressing the issue of locating facilities and combined the theory of fuzzy sets, operating system rating and simple additive weighting (SAW).

b) Iranian Researches

Ghanbari et al., (2014) ranked East Azarbaijan cities based on tourism urban infrastructures by using SAW and TOPSIS.

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By using Pearson skid coefficient, the distribution of urban tourism infrastructure in the East Azarbaijan province was obtained, which results in asymmetric distribution with positive skewness.

Mohammadzadeh et al., (2010) ranked the indicators of urban welfare in different areas of Tehran. This article, by using the information of different regions of Tehran, considering the macro indicators of urban development and urban health and using the mathematical technique of data envelopment analysis, has investigated and explained the urban health and indicators of the healthy city. In this perspective, it has tried to find the substrates suitable for urban development and health.

Maleki & Hosseinzadeh Dalir (2009) ranked urban areas in terms of sustainable development indicators by using factor analysis and Taxonomy methods. The statistical population of this research is the fourteen district of Ilam city. Based on the results of fourteen urban districts, two semi-sustainable regions and twelve other areas were unsustainable and none of the urban areas was sustainable.

Lotfalipoor (2003) located Pasargad Bank branches by using Hierarchy Analysis and Monte Carlo simulation methods. Finally, the results were statistically compared and a suitable location for the new branch was selected.

Mohammadi & Izadi (2012) weighted 14 districts of Isfahan city based on 35 indicators, by using Shannon entropy, and ranked them by using multi-criteria decision-making method. Finally, using GIS, map of the levels of development of the regions was designed into five levels.

Amirazdi et al., (2010) ranked Fars Province based on development level by using fuzzy and numerical Taxonomy approaches and concluded that fuzzy method is more efficient than numerical Taxonomy.

Ashoornejad & Faraji (2014) ranked Tehran 22-districts economically. After extracting indicators, by using special vector technique, they obtained the weight of the indexes and finally, they ranked the regions with multi-attribute, collective and comparative based on the elimination.

3- Theoretical Framework

Local and regional relative capabilities and advantages are always different due to the impact of various economic, social and environmental factors. This leads to the excellence of some areas over other areas; thus, recognizing local and regional advantages and abilities is one of the fundamental principles of development planning, and practical development strategies can also be realized by explaining the status quo (Taherkhani, 2007).

In this research, it has been tried to use indicators that are considered in economic studies and urban management. The indicators that can be presented include: the number of educational and cultural centers, the number of administrative centers, the number of welfare and recreation centers, the number of health centers, the number of economic and commercial centers, the number of banks and financial and credit institutions, the density population, literacy rate and employment rate.

The multi-criteria decision-making methods used in this research are as follows:

a. Determination of Indicator Weight by Shannon Entropy

In a decision matrix with m option and n index, to determine the weight of the indices by the Shannon entropy method, for each element of the decision matrix,

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which is determined by r_{ij}, P_{ij} is calculated as follows (Moosavi & Kazemi, 2013):

$$P_{ij} = \frac{r_{ij}}{\sum_{i=1}^{m} r_{ij}} \qquad j = 1,2,...,n \qquad \forall i, j \quad (1)$$

The entropy of E_j is calculated as follows:

$$E_j = -K \sum_{i=1}^{m} P_{ij} \ln P_{ij} \qquad \forall j \quad (2)$$

k as a constant value is calculated as follows:

$$K = \frac{1}{\ln(m)} \quad (3)$$

Which E_j is between zero and one. In the following, the value of d_j (degree of deviation) is calculated, which states the relevant index (j) how much information is useful for decision making to the decision maker.

$$\forall j \qquad d_j = 1 - E_j \quad (4)$$

Then the weight of W_j is calculated, in which the best weight is chosen (Azar and Rajabzadeh, 2012):

$$W_j = \frac{d_j}{\sum_{j=1}^{n} d_j} \qquad \forall j \quad (5)$$

b. SAW Method

Simple Additive Weighting (SAW) is one of the easiest decision making methods. By calculating the weights of indicators, this method can be used easily. To use this method, the following steps are required:

- Quantifying the decision matrix
- Linear normalization of decision-making matrix values
- Multiplication of normalized matrix in the weights of the indices
- Choosing the best option (A^*) using the following criteria:

$$A^* = \left\{ A_i \middle| \max \frac{\sum_{j=1}^{n} w_j r_j}{\sum_{j=1}^{n} w_j} \right\} \quad (6)$$

In other words, in the SAW method, an option is chosen (A^*), which is the sum of the valued values of weight ($n_{ij}w_j$), which is greater than the rest of the options (Momeni, 2007).

c. TOPSIS Method

This technique was presented by Hwang and Young in 1981. This method is one of the most commonly used methods among multiple decision-making methods (Lin, 2010). In this method, the m option is evaluated by the n index. This technique is based on the notion that the choice must have the least distance with the positive ideal solution (A^+: best possible) and the maximum distance with the negative ideal solution (A^-: the worst possible condition).

Solving the problem with this method involves six steps:

1. Quantifying and normalizing decision matrix (N): to normalize, norm is used.

2. Obtaining weighted normalized matrix (V): We multiply the matrix in the weighted diagonal matrix ($W_{n\times n}$), that is, $V = N \times W_{n\times n}$

3. Determining the positive ideal solution and the negative ideal solution: The positive ideal solution (V_j^+) and the negative ideal (V_j^-) are defined as follows.

V_j^+ = [Vector of the best values of each matrix index]

V_j^- = [Vector of the worst values of each matrix index]

The best values for positive indicators, the largest values, and for the negative indicators are the smallest values, and the

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worst for the positive indicators, the smallest values, and for the negative ones, are the largest values.

4. Calculating Euclidean distance between each option to positive and negative ideals: the Euclidean distance of each option to the negative ideal (dj) is calculated with the following formulas.

$$d_i^+ = \sqrt{\sum_{j=1}^{n}(V_{ij} - V_j^+)^2} \qquad ,(i = 1,2,\ldots,m) \tag{7}$$

$$d_i^- = \sqrt{\sum_{j=1}^{n}(V_{ij} - V_j^-)^2} \qquad ,(i = 1,2,\ldots,m) \tag{8}$$

5. Finding relative proximity (CLi *) an option to ideal option:

$$CLi^* = \frac{d_i^-}{d_i^- + d_i^+} \tag{9}$$

6. Ranking options: Any option that CL is bigger is better (Momeni & Sharifisalim, 2011).

d. VIKOR Method

The algorithm solving this decision model is as follows (Azar and Rajabzadeh, 2012):

- Decision matrix formation
- Normalization of decision matrix
- Determining the weight of criteria
- Determining the best (f_i^*) and the worst (f_i-) values among the values available for each criterion in the decision matrix
- Calculating the value of S_j and R_j

$$S_j = \sum_{i=1} w_i (F_i^* - f_{ij}) / (F_i^* - f_i) \tag{10}$$

$$S_j = \max_i [w_i (F_i^* - f_{ij}) / (F_i^* - f_i)] \tag{11}$$

- Calculation of Q: Q is a hybrid function that is called a function of advantage, and combines S and R with a weight of V as the equation:

$$Q_j = V(S_j - S^*)/(S^- - S^*) + (1-V)(R_j - R^*)/(R^- - R^*) \tag{12}$$

$$S^* = \min S_j,\ S^- = \max S_j,\ R^* = \min R_j,\ R^- = \max R_j \tag{13}$$

- Ranking the options

Choosing the final option: option a with minimum Q value is the best option. If a after a has a minimum value of Q and a difference of Q from DQ is lower than the following equation, a is also prioritized. J is the number of decision options.

$$DQ = 1/J - 1 \tag{14}$$

e. Linear Assignment

In this technique, using the priority of each of the options in each of the indicators, we will reach a zero-one programming model, and we can achieve the priority of the options by solving the model.

First, we create a matrix in which the rows represent the rankings and the columns represent the indices. Given the rank of each option in each index, the matrix components are identified as A_i.

We extract the matrix m × m with respect to the expected vector W (index weight). The elements of this matrix, whose rows have the same option and its columns, are obtained from the weights obtained by that option with respect to that index.

Based on the matrix obtained from step 2, we derive the optimal answer (Azar & Rajabzadeh, 2012).

f. Combined Techniques

Today, decision-makers do not limit themselves to a decision-making process and may achieve different results using different methods. In these circumstances, techniques have been proposed to combine the rankings of techniques that are:

1. Average Ranks Method: In this method, the average rank of the techniques is the basis of the final proposal.

2. Borda's Method: To implement this technique, a non-empty matrix m × m is formed which describes the row i in the column j ($i \neq j$) in terms of the number of

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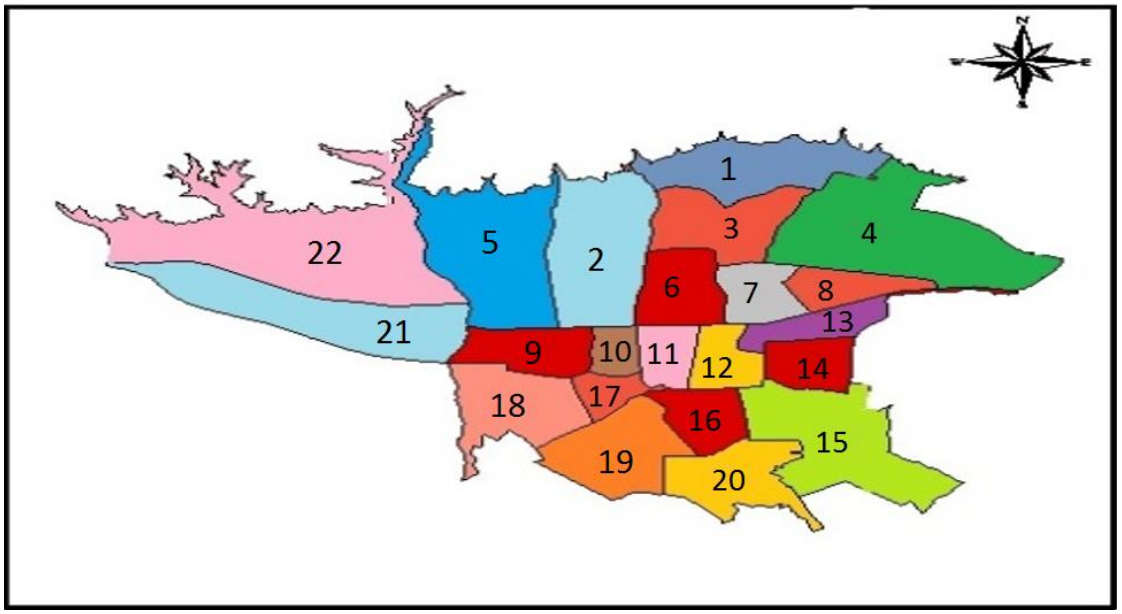
bits. If the number of nodes in the techniques is higher, we encode it with M, where the row is in the column, and if the column is in line or the number of votes is equal, we will encode it with X. Finally, the total number of boards in each row is the basis of ranking. The higher the number of wins, the higher the rank.

3. Copeland's method: This method calculates not only the number of wins but also the number of losses for each option. It is clear that M in the row i; means that it is lost in the column j; that is, it is lost. In this method, the basis for the ranking is the difference between the number of Ms in row i and the number of Ms in the column j (i = j); that is, the difference between the boards and the losses will be the basis of ranking.

4. POSET method: In this method, according to the three ranking strategies through the formation of a set, we get partial or social rankings (Azar & Rajabzadeh, 2012).

4- Research Method

Regarding the research objectives, firstly, the indices and effective economic parameters were identified. According to experts' opinions, the data were collected for each of the regions, and completed with these indicators (Ashoornejad & Faraji, 2014). Using entropy method, the weight of the criteria was calculated and multi-attribute techniques were used to rank the urban areas using Excel and Lingo software. This process has been implemented in Tehran (map 1) and on all 22 districts of this city.



Map1. 22 districts of Tehran

5- Research Findings

Step1: Compilation of indicators and data collection

In the first stage, the indicators and factors affecting the economic ranking of urban areas were identified with experts' opinions, and the required data for each of the areas in Tehran were collected and accordingly, decision-making matrix was formed (Table1).

Table1. Collected data

District	Number of educational and cultural centers	Number of administrative centers	Number of welfare and recreational centers	Number of health centers	Number of economic and commercial centers	Number of banks and financial and credit institutions	Population density	Literacy rate	Employment rate
1	290	185	351	187	36	147	4902.74	96.89	94.43
2	403	113	200	293	62	195	5732.71	93.95	82.91
3	335	258	228	306	63	222	9085.19	97.47	94.68
4	376	101	361	368	50	124	5027.69	94.71	92.75
5	370	77	230	244	49	89	5989.66	96.5	91/35
6	427	544	206	409	54	420	11924.22	97.49	93.44
7	217	146	108	233	21	228	20958.38	95.05	93.79
8	150	48	121	186	12	123	30542.34	94.19	92.72
9	71	44	61	65	13	53	3852.83	92.1	90.56
10	141	26	74	155	14	115	43835.97	93.13	90.49
11	137	107	101	121	97	187	24796.49	94.07	92.65
12	131	124	172	75	133	279	16427.02	90.73	93.78
13	163	57	95	132	18	106	16946.48	94.98	92.65
14	166	49	152	140	14	82	23354.2	94.03	94.47
15	210	33	176	178	38	85	15698.32	90.09	92.72
16	117	72	127	108	20	69	15998.3	88.62	42.90
17	138	45	115	100	82	56	36574.57	87.34	89.54
18	152	77	141	89	31	51	3877.13	89.55	91.24
19	65	12	61	64	7	20	5614.43	87.59	92.63
20	185	109	162	96	27	62	5197.18	90	91.31
21	71	56	59	30	19	44	927.84	94.71	90.27
22	41	31	65	26	6	12	8624.92	95.52	89.43

Reference: (Ashoornejad & Faraji, 2014)

In this research, Delphi method was used to get the opinions of 12 relevant experts in this field and to determine the effective factors and criteria. In addition, reports from the Organization of Statistics and Organization of Information Technology of Tehran Municipality were used to formulate the decision matrix (Ashoornejad & Faraji, 2014). The extracted indices are:

C_1: Number of educational and cultural centers

C_2: Number of administrative centers

C_3: Number of welfare and recreation centers

C_4: Number of health centers

C_5: Number of economic and commercial centers

C_6: Number of banks and financial and credit institutions

C_7: Population density

C_8: Literacy rate

C_9: Employment rate

Step 2: Determining the significance of the indices using the Shannon entropy method

Obviously, the weight of all the indicators is not the same. When the data of a decision matrix are fully specified, the entropy method can be used to evaluate the weights (Mahboob & Qashqai, 2009). The weight obtained from entropy method is shown in Table 2.

Table2. Weight obtained from the entropy method

	C1	C2	C3	C4	C5	C6	C7	C8	C9
W	0.0949229	0.221279	0. 0793409	0.1142742	0.16904	0.149551	0.1711712	0.003328	**8. 496E-05**

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As shown in Table 2, the index of the number of administrative centers and population density is most important. After completing the decision matrix and determining the weight of the indicators, using the multi-attribute decision-making methods, the prioritization of the regions is as follows:

Step3: Ranking the 22 districts using decision-making techniques

Table 3 shows the rankings obtained using SAW, TOPSIS, VIKOR, and LINEAR ASSIGMENT methods using Excel and Lingo software.

Table 3: Ranking areas based on SAW, TOPSIS, VIKOR, LINEAR ASSIGNMENT techniques

Ranking	SAW	TOPSIS	VIKOR	LINEAR ASSIGMENT
1	6	6	6	6
2	3	3	3	4
3	12	12	1	3
4	11	11	12	2
5	2	17	7	5
6	4	7	2	7
7	7	2	4	1
8	1	1	11	8
9	17	10	5	15
10	5	4	20	10
11	10	8	17	14
12	8	5	8	13
13	15	14	16	11
14	14	15	18	16
15	13	14	14	17
16	20	20	13	20
17	16	16	10	18
18	18	18	15	12
19	9	21	21	9
20	21	22	9	21
21	22	9	22	19
22	19	19	19	22

Average Rating Method

This method prioritizes options based on the average rankings obtained from different MADM methods (Tavari et al., 2008).

Regarding the average ratings given in the column on the right side of Table 4, the ranking of areas can be seen in Table 5 (left the best district and right, the worst one).

Step Four: Final Rating Using Combined Techniques

As shown in Table 3, different rankings for a single problem are obtained according to the various techniques described above. Therefore, for consensus on various ratings, the combined methods, which are the method of average ratings, the method of Borda and the Copeland method, should be used.

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Table4. Average Ratings Implementation

LINEAR District	MADM methods				Average ranking
	SAW	TOPSIS	VIKOR	LINEAR	
1	8	8	3	7	6.5
2	5	7	6	4	5.5
3	2	2	2	3	2.25
4	6	10	7	2	6.25
5	10	12	9	5	9
6	1	1	1	1	1
7	7	6	5	6	6
8	12	11	12	8	10.75
9	19	21	20	19	19.75
10	11	9	17	10	11.75
11	4	4	8	1	7.25
12	3	3	4	18	7
13	15	15	16	12	14.15
14	14	13	15	11	13.25
15	13	14	18	9	13.5
16	17	17	13	14	15.25
17	9	5	11	15	10
18	18	18	14	17	16.75
19	22	22	22	21	21.75
20	16	16	10	16	14.5
21	20	19	19	20	19.5
22	21	20	21	22	21

Table5. Ranking with rating average (left the best district and right, the worst one)

6	3	2	7	4	1	2	1	5	17	8	10	14	15	20	13	16	18	21	9	22	19

Borda's Method

This method is based on majority rule. Consider data in Table 4 again. With the Breda method, we compare the regions together, the results of which are given in Table 6. The order of selecting the regions from left to right will be in the form of table 7.

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Table6. Implementation with Borda's method

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	∑C
1	_	X	X	X	M	X	X	M	M	M	X	X	M	M	M	M	M	M	M	M	M	M	14
2	M	_	X	M	M	X	M	M	M	M	X	X	M	M	M	M	M	M	M	M	M	M	17
3	M	M	_	M	M	X	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	20
4	X	X	X	_	M	X	X	M	M	M	X	X	M	M	M	M	M	M	M	M	M	M	14
5	X	X	X	X	_	X	X	M	M	M	X	X	M	M	M	M	X	M	M	M	M	M	12
6	M	M	M	M	M	_	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	21
7	M	X	X	X	M	X	_	M	M	M	X	X	M	M	M	M	M	M	M	M	M	M	15
8	X	X	X	X	X	X	X	_	M	X	X	X	M	M	M	M	X	M	M	M	M	M	10
9	X	X	X	X	X	X	X	X	_	X	X	X	X	X	X	X	X	X	M	X	X	M	2
10	X	X	X	X	X	X	X	X	M	_	X	X	M	M	M	M	X	M	M	M	M	M	10
11	M	M	X	X	M	X	X	M	M	M	_	X	M	M	M	M	M	M	M	M	M	M	16
12	M	M	X	M	M	X	M	M	M	M	M	_	M	M	M	M	M	M	M	M	M	M	19
13	X	X	X	X	X	X	X	X	M	X	X	X	_	X	X	M	X	M	M	M	M	M	7
14	X	X	X	X	X	X	X	X	M	X	X	X	M	_	X	M	X	M	M	M	M	M	8
15	X	X	X	X	X	X	X	X	M	X	X	X	M	X	_	M	X	M	M	M	M	M	8
16	X	X	X	X	X	X	X	X	M	X	X	X	X	X	X	_	X	M	M	X	M	M	5
17	X	X	X	X	X	X	X	M	M	M	X	X	M	M	M	M	_	M	M	M	M	M	12
18	X	X	X	X	X	X	X	X	M	X	X	X	X	X	X	X	X	_	M	X	M	M	4
19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	_	X	X	X	0
20	X	X	X	X	X	X	X	X	M	X	X	X	X	X	X	M	X	M	M	_	M	M	6
21	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	M	X	_	M	2
22	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	M	X	X	_	1
∑R	6	4	1	4	8	0	4	10	18	10	3	2	14	12	12	16	8	17	21	15	18	20	

Table7. Ranking with Borda's method (left the best district and right, the worst one)

6	3	12	2	11	7	1	4	5	17	8	10	14	15	13	20	16	18	9	21	22	19

Copeland's Method

This method starts with the end of the Borda's method. This method calculates not only the number of Borda, but also the number of losses for each option. The last row in Table 6 (ΣR) shows the number of losses for each option. The score that Copeland gives each option reduces the number of losses (ΣR) from the number of points (ΣC).

According to Table 6 and based on the Copland method, the score of each region is calculated as follows:

The score of district 1 = 14-6 = 8
The score of district 2 = 17-4 = 13
The score of district 3 = 20-1 = 19
The score of district 4 = 14-4 = 10
The score of district 5 = 12-8 = 4
The score of district 6 = 21-0 = 21
The score of district 7 = 15-4 = 11
The score of district 8 = 10-10 = 0
The score of district 9 = 2-18 = -16
The score of district 10 = 10-10 = 0
The score of district 11 = 16-3 = 13
The score of district 12 = 19-2 = 17
The score of district 13 = 7-14 = -7

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The score of district 14 = 8-12 = -4
The score of district 15 = 8-12 = -4
The score of district 16 = 5-16 = -11
The score of district 17 = 12-8 = 4
The score of district 18 = 4-17 = -13
The score of district 19 = 0-21 = -21
The score of district 20 = 6-15 = -9
The score of district 21 = 2-18 = -16
The score of district 22 = 1-20 = -19

The order of districts using this method is also shown in Table 8.

Table8. Ranking with Copeland's method (left the best district and right, the worst one)

6	3	12	2	11	7	4	1	5	17	8	10	14	15	13	20	16	18	9	21	22	19

Poset method

Once the rankings of the criteria were obtained by all three methods; average, Borda and Copland, it is time to combine the results of these three methods and obtain a single ranking for the criteria, which is referred to as this integration technique. (Tavari et al., 2008). The distinction between some options from one another is such that they cannot be placed in separate sets; while some options are uniquely placed in a unique collection (Azar and Rajabzadeh, 2012). The results are shown in Table 9.

Table9. Ranking based on Poset method

Ranking	**1**	**2**	**3**						**4**	**5**	**6**	**7**	**8**	**9**	**10**		**11**	**12**	**13**		**14**	**15**
Method 1	6	3	2	7	4	1	12	11	5	17	8	10	14	15	20	13	16	18	21	9	22	19
Method 2	**6**	**3**	**12**	**2**	**11**	**7**	**1**	**4**	**5**	**17**	**8**	**10**	**14**	**15**	**13**	**20**	**16**	**18**	**9**	**21**	**22**	**19**
Method 3	6	3	12	2	11	7	4	1	5	17	8	10	14	15	13	20	16	18	9	21	22	19
Method 4	6	3	2, 12, 7, 4, 11, 1						5	17	8	10	14	15	13, 20		16	18	9, 21		22	19

In Table 9, the second, third, and fourth rows respectively show the results in tables 5, 7, and 8. The results are compared together and since the distinction of some options is such that they cannot be put in a unique set, the results will be combined in the last row. Given the number of sets in the final row, the rankings are written in line 1. Therefore, in the bottom right corner, the worst districts and the left are the best districts for the establishment of financial and commercial centers.

6- Conclusion and Discussion

Achieving profit and making optimal use of resources require systematic, efficient and accurate planning, this depends on a comprehensive understanding of the facilities, opportunities, capabilities and constraints. In this research, using multi-criteria decision-making methods, the economic rankings of 22 areas of Tehran were studied. Decision matrix with data from nine important indicators of employment rate, literacy rate, population density, financial and credit institutions, economic and commercial, health and medical, recreational, administrative, educational and cultural centers for each of the 22 districts was formed. Population density, number of financial and credit institutions, economic and commercial, health and medical, recreational, administrative, educational and cultural centers were formed for each of the 22 districts. The weight of the indices was determined using the entropy

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method, and SAW, TOPSIS, VIKOR, and LINEAR ASSIGNMENT decision-making methods were used to find the best districts, but because each of these methods displayed a different ranking, Poset's combined techniques was used.

Finally, the results of the survey and analysis of the 22 districts of Tehran indicate that districts 6 and 3 are the best areas for the establishment of financial and commercial centers.

It is also possible to look at the results of the economic ranking of urban areas using multi-factor decision-making techniques. According to the ranking of Table 9, it can be said that districts 19 and 22 are only poor ones; therefore, it is suggested that in order to establish a balance in the city, more planning is done for these areas and a good prospect for improvement should be developed in order to satisfy citizens.

Thus, it is recommended to develop following issues:

- The use of other MADM methods to rank economic zones

- The use of above methods with a combination method to rank peripheral issues

- The use of fuzzy approach to rank urban areas

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