SOCIOMETRIC RESEARCH IN THE SERVICE OF APPOINTING TEAM MEMBERS IN THE CONTEMPORARY TOURISM SECTOR

Ivica Nikolić, PhD, Associate Professor[1]
Tijana Marić Đurković, PhD, Assistant Professor[2]
Jelena Jotić, PhD, Assistant Professor[3]

Abstract: *This paper shows that the sociometric method can be applied in any tourist organization's human resource management with the goal of appointing the best team members. The sociometric concept of the model uses the characteristics of the Adizes model: P – producer, E – entrepreneur, A – administrator, and I – integrator, as well as the criteria for sociometric testing. The results and conclusions of the research show that such sociometric concept can be widely applied in strategic management of the tourist organization with the goal of forming a team.*

Keywords: *Sociometry, team, management in tourism, Adizes model of four dominant characteristics of manager-leader, P – producer, E – entrepreneur, A – administrator, I – integrator.*

1. INTRODUCTORY CONSIDERATIONS

Activities and tasks which are related to human resources in a company represent an integral part of the business system, whose success depends on the productive cooperation of numerous people. Due to the specific traits of human resources and their importance for the functioning of each organizational part, human resource management encompasses the totality of all tasks from the domain of planning, obtaining, maintaining and improving human potentials [1].

In his book *Mastering Change* Ichak Adizes suggests [2], "We need someone who is a conscientious and organized, systematic and complete person; he or she must have an open mind, be creative and ready to take risks, they must be aware of other people's needs, must know how to build a team and be replaceable".

In the recent period, some scientific papers have dealt with the problem of forming a work team made up of members who are capable of cooperating on joint tasks [3]. In these terms, it has been emphasized that the organizational behavior and industrial and organizational psychology with the application of sociometry represent very important factors when forming a team which will function successfully [4].

Unlike the problem of team formation, in [5] a new term has been defined – the problem called The Multiple Team Formation Problem. It has been established by taking into account more projects and parts to which people are devoted. Also, the optimization model has been proposed for this problem.

Some authors have dealt with the problem of individual members of work teams, which is also very important for successful functioning of work teams [6]. In [3] a new, original methodology,

---
[1]   Educons University, Faculty of Business Economics, Sremska Kamenica, Vojvode Putnika 87, Serbia
[2]   Educons University, Faculty of Business Economics, Sremska Kamenica, Vojvode Putnika 87, Serbia
[3]   Educons University, Faculty of Business Economics, Sremska Kamenica, Vojvode Putnika 87, Serbia

based on Sociometry, is suggested for selecting members of a work team, but among employees of the companies where projects/work tasks are to be done. The methodology allows the project/work task manager to select persons who should be chosen from the company's own resources. Moreover, the methodology allows combining the chosen individuals so as to make one or more groups in order to achieve the highest possible work efficiency.

In [7] three examples are shown, based on our own research, which illustrate how sociometry/sociograms can be integrated in various ways into other analytical tools – quantitative and qualitative.

The main goal of the paper [8] is to explore, using sociometric methodology, the relationships among the members of the team and their effect on the team's achievement during the work on a project in the tourism sector.

This paper will present the sociometric concept of the new model for team formation in the tourist organization, with the help of four dominant roles of managers (leaders) according to Ichak Adizes: P – producer, A – administrator, E – entrepreneur, and I – integrator.

The success of the organization itself most often depends on the performance of human resources. Because of that the personnel business politics is led by the highest management board of the organization – i.e. strategic (top) management. The success of all the organization depends on the rightly chosen personnel politics and its successful realization – which is reflected in the moto "the right person in the right place" [10].

Human resources planning is a systematic and continuous process of analyzing the organization's needs for human resources under constantly changeable environmental conditions and integrating these analyses with the development of personnel politics focused on fulfilling these needs. This process goes beyond the politics based on individual basis and encompasses all aspects of human resource management, emphasizing planning as a key element for fulfilling future needs for abilities and development [11].

The politics of providing personnel for managerial functions in the tourism sector is the question of finding and choosing personnel from two main sources – external (personnel from outside the company) and internal (personnel from the company's own resources). Both sources have advantages and disadvantages, but the advantage is mostly given to the company's own resources because of the personnel's familiarity with the company's philosophy, organizational design, business strategy and goals, as well as because lower recruiting costs and the possibility of a valid estimation and choice of candidates in accordance with the goals and tasks set before the chosen management or managerial team.

Recruitment of personnel from the company's own resources is a complex process which requires bigger efforts and deeper analysis so that the best possible choices for a team can be made. Internal recruitment of the candidates for specific positions requires the clarity of proceedings and criteria, as well as just treatment of all candidates. "The rules of the game" must be preset and known in advance in order to avoid the feeling of unequal treatment [1].

Strategic management of the tourist organization has the permanent goal: during team formation it must make the best possible choice regarding its members. This paper presents a model that encompasses a combination of forms of internal recruitment for choosing team members,

who will be subjected to the sociometric research method by the management of middle or higher level (depending on the complexity of the organizational structure), with the use of parametric variables of the Adizes model of four dominant characteristics of leaders.

2. TEAMS AND TEAM WORK

A team is a small formal group whose members have complementary skills and competences, and are gathered around a joint goal or a group of joint goals for whose realization they are all equally responsible [12].

The future of strategic management of a tourist organization lies in wider application of team management. The examples of big international companies which have been using big teams for quite a while in their management processes are well known. There are various classifications of teams in literature, and in this instance, we will present the division according to N. Rot, which includes three kinds (types) of team: [13]
1. Teams for problem solving
2. Teams for research and development
3. Self-managing teams

2.1. Sociometric concept for choosing team members in the tourist organization

The essence of this model is testing abilities of managers as potential team members by using Adizes model of the above mentioned four dominant characteristics of managers.

We will first present the characteristics of Adizes model of manager-leader [2]:
1. **P – producer:**
   • strictly focused on realization of the organization's purpose
   • achieving and producing results is their main preoccupation
   • assiduity at work (comes first to work and leaves last, takes home unfinished tasks)
   • unwillingly attends meetings and seminars ("they are a waste of time in terms of work efficiency)
   • performs most obligations alone without including other subordinates
   • administration is not their strong suit.
2. **A – administrator:**
   • strict application of the established rules of work and conduct within the organization
   • preoccupied with documentation (bureaucracy); meetings regular and according to plan
   • comes to work on time and leaves work when the established work hours are over, which they also strictly demand from their subordinates
   • high level of respect of the corporative culture
   • preoccupied with preventing abuse of any kind within the organization
   • achieving results is secondary because what is important to them are the rules and the order of work steps.
3. **E – entrepreneur:**
   • high level of risk-taking for the sake of the organization's goals
   • proactive planning, thinking and decision making
   • managing changes and innovations is their main preoccupation
   • see their job as a "way of life" and invest themselves in it 24/7
   • they have the main say at meetings, and give new tasks to their subordinates all the time.

4. I – integrator:
- possesses the ability to build good interpersonal relationships in their surroundings
- is interested in other people and in relationships among other people
- is politically educated and capable of adapting to others
- is more a follower than a leader
- functionality is their main preoccupation.

According to Ichak Adizes, a leader should possess these ideal characteristics, but we recognize them only in textbooks about management. However, there are managers who possess some of these dominant characteristics – sometimes one is pronounced and sometimes two or more. In order to provide all four characteristics (PAEI), it is necessary to form a team which will consist of a group of individuals who possess at least one dominant characteristic of the four abovementioned ones, and to take into consideration all four (PAEI) when forming a team. That is how a complementary team is made.

Based on the results of sociometric research attractions and rejections among the group members can be clearly seen, "leaders" and "the rejected" can be identified, as well as the presence of "dyads" (pairs that chose each other).

Some forms of classification according to sociometric results can be presented as:
- the popular ones (leaders) – members who have at least one third or more positive votes. These data are most important when choosing team members!
- the rejected – they choose others but always get negative votes;
- the unpopular – members who have one third of negative votes;
- abstainers – they do not choose others, but others choose them;
- loners – they do not choose anyone and no one chooses them;
- mutual attraction or mutual rejection – when two members give each other positive votes (attraction) or give each other negative votes (rejection)
- irreciprocal choice – when one subject gives a positive vote to another who gives them a negative vote [15].

The founder of sociometry is Jacob Moreno [16], [17], an Austrian psychologist and psychiatrist who lived in the 20th century. Most common tasks of sociometric research are social relationships within a group, cohesiveness or expansiveness of a group, the presence of conflicts, the level of affective atmosphere within a group, and the status of individuals and pairs within a group.

These results are obtained based on a preset sociometric criterion (sociometric question) which is the basic part of a sociometric test (sociometric research technique) [18], [19], and which is most often the following question: "With whom would you like to spend your free time the most?", and the question, "With whom you would never like to spend your free time?" Criteria defined in such a manner project social relationship within the examined (tested) group, but do not yield individuals' qualitative characteristics because the questions (criteria) are set in this way.

The idea of this paper's author is to apply sociometric research in human resource management of any organization, with the goal of choosing the best individuals for a team by strategic management. This sociometric concept of the model implements the Adizes model of four dominant characteristics of manager-leader (PAEI) [2].

The results obtained by sociometric testing can be graphically presented in the form of a socio-gram (for every sociometric criterion separately), but also in the form of sociometric matrix and the display of sociometric indices, in order to get a complete insight into the quality of individuals and relationships within the examined group.

The following sociometric research, conducted in one tourist organization in Serbia, includes seven managers who are the potential candidates for team members. The managers have worked for the same organization for about ten years, they know each other and have the insight into the company's visions, strategy and goals. They know its corporative culture and the organizational design. The research was requested by the management at the strategic level, which decided to choose team members from the company's internal sources, and to form the team, by applying sociometric concept of the model, for the needs of the company's entrance into a new market. The obtained results will not be revealed to the subjects and will be given only to the ones requesting the research, with a remark that they must remain discreet. The questionnaire's introduction cites the purpose of the research.

A sociometric criterion most often represents a preset variable based on which the subjects, their attitudes and evaluations are tested. The criterion can be defined in such a manner so that we can conclude from the variables "the essence of the attitudes", and the results can be used as a "parallelism" of the estimation of individual social statuses and group statuses.

The traits of good sociometric criteria are:
- simple and direct questions,
- specific questions rather than general questions,
- results can be applied in the future,
- adaptation to group (do not endanger cohesiveness),
- the possibility of asking an explanation for the choice (additional question: "Why?").

When it comes to our example, before beginning the research, first the sociometric criteria were defined, which in practice represent two (2) questions for all four (4) criterial variables, P – producer, A – administrator, E – entrepreneur, and I – integrator, in accordance with the characteristics already mentioned, and the questions are:
1. Name by first and last name one or maximum two colleagues who you think show pronounced characteristic PRODUCER (P) in their work, as it is described in the following text.
2. Name by first and last name one or maximum two colleagues who you think do not show at all the characteristic PRODUCER (P) in their work, as it is described in the following text.

The results of the group sociometric status, which are reflected in the GCI (Group Cohesion Index) and GEI (Group Expansion Index) results, can serve for the control of the "quality" of the choice after the sociometric research has been conducted and the managers which will be forming a team named, because the values of GCI and GEI can serve as a basis for the evaluation of the group potential for team work. In order to obtain these results, it is necessary to conduct the usual sociometric research and take into consideration only the GCI and GEI values. If they show the absence of negative mutual choices within the chosen team it means that we have made an excellent choice and that the team has the group potential for team work. In this research we will not cover this possibility for checking because it would take too much space, but it is important to mention that sociometry is an adequate method for such research problem.

3.   THE RESEARCH RESULTS

In the text below, in the Figure 1 we can see sociograms for variables (P) and (E), and in the Figure 2 for variables (A) and (I). The Tables 1-13 show sociometric matrices and sociometric indices for all subjects, as well as the group sociometric status, for every variable separately (PAEI).

a)   b)

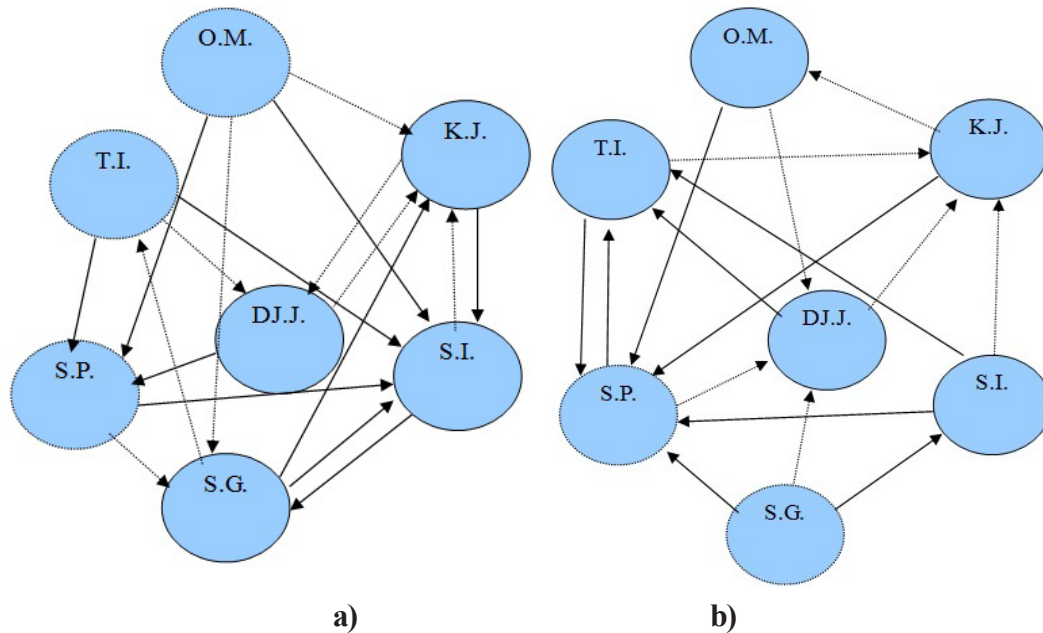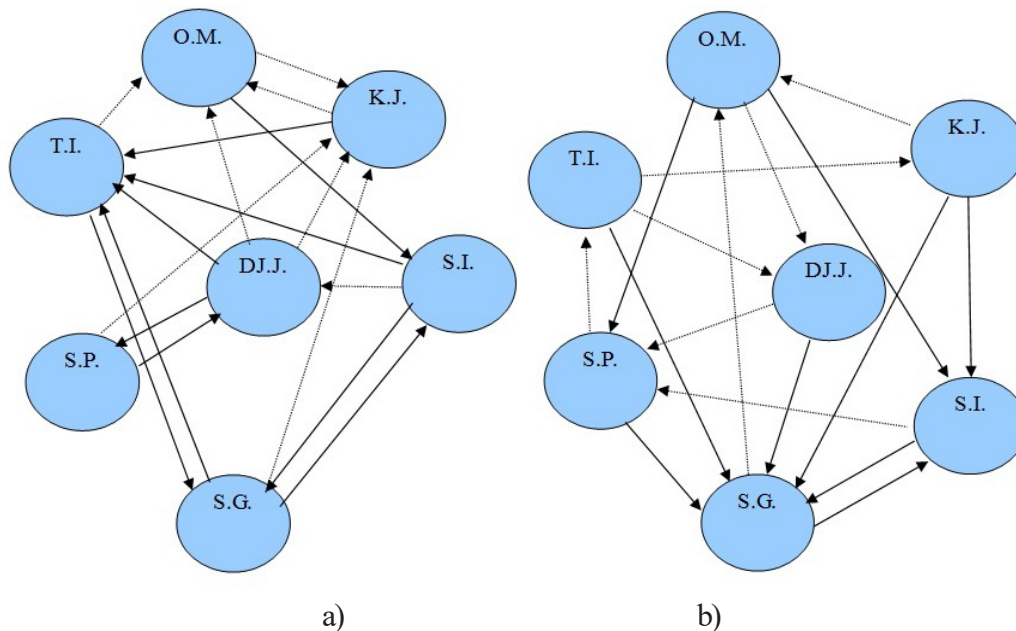Figure 1: Sociograms for variable "producer" (P) **(a)** and for variable "entrepreneur" (E) **(b)**

a)   b)

Figure 2: Sociograms for variable "administrator" (A) **(a)** and for variable "integrator" (I) **(b)**

	CHOSEN						
Initials of respondents.	O.M.	K. J.	S. I.	S. G.	S.P.	T.I.	DJ. J.
O.M.		-	+	-	+		
K.J.			+				-
S.I.		-		+			
S.G.		+	+			-	
S.P.			+	-			
T.I.			+		+		-
DJ.J.		-			+		
CHOOSES							

Table 1: Sociometric matrix for the variable "Producer" (P)

SOCIOM. INDICES	TAGS	O.M.	K. J.	S. I.	S. G.	S.P.	T.I.	DJ. J.
Got positive	Do(+)	0	1	5	1	3	0	0
Got negative	Do(-)	0	3	0	2	0	1	2
Give positive	Da(+)	2	1	1	2	1	2	1
Give negative	Da(-)	2	1	1	1	1	1	1
Leadership index	Lx	2	2	**6**	3	**4**	3	1
Rejection index	Ex	2	4	**1**	3	**1**	2	3
Positive elective status	Is(+)	0	0,16	**0,83**	0,16	**0,50**	0	0
Negative elective status	Is(-)	0	0,50	**0**	0,33	**0**	0,16	0,33
Positive expansiveness	Ie(+)	0,33	0,16	**0,16**	0,33	**0,16**	0,33	0,16
Negative expansiveness	Ie(-)	0,33	0,16	**0,16**	0,16	**0,16**	0,16	0,16

Table 2: Individual sociometric statuses of the subjects and the evaluation
of the levels for the variable "Producer" (P)

SOCIOMETRIC INDEX	TAG	RESULT
Group Cohesion Index	GCI	0,16
Group Expansion Index	GEI	1,42
Group Tension Index	GTI	1,00
Affective Atmosphere Index	AAI	0,58

Table 3 – Group sociometric status for the variable "Producer" (P)

	CHOSEN						
Initials of respondents	O.M.	K. J.	S. I.	S. G.	S.P.	T.I.	DJ. J.
O.M.					+		-
K.J.	-				+		
S.I.		-			+	+	
S.G.			+		+		-
S.P.						+	-
T.I.		-			+		
DJ.J.		-				+	
CHOOSES							

Table 4: Sociometric matrix for the variable "Entrepreneur" (E)

SOCIOM. INDICES	TAGS	O.M.	K. J.	S. I.	S. G.	S.P.	T.I.	DJ. J.
Got positive	**Do(+)**	0	0	1	0	5	3	0
Got negative	**Do(-)**	1	3	0	0	0	0	3
Give positive	**Da(+)**	1	1	2	2	1	1	1
Give negative	**Da(-)**	1	1	1	1	1	1	1
Leadership index	**Lx**	1	1	**3**	2	**6**	4	1
Rejection index	**Ex**	2	4	**1**	1	**1**	1	4
Positive elective status	**Is(+)**	0	0	**0,16**	0	**0,83**	0,50	0
Negative elective status	**Is(-)**	0,16	0,50	**0**	0	**0**	0	0,50
Positive expansiveness	**Ie(+)**	0,16	0,16	**0,33**	0,33	**0,16**	0,16	0,16
Negative expansiveness	**Ie(-)**	0,16	0,16	**0,16**	0,16	**0,16**	0,16	0,16

Table 5: Individual sociometric statuses of the subjects and the evaluation
of the levels for the variable "Entrepreneur" (E)

SOCIOMETRIC INDEX	TAG	RESULT
Group Cohesion Index	**GCI**	0,16
Group Expansion Index	**GEI**	1,28
Group Tension Index	**GTI**	1
Affective Atmosphere Index	**AAI**	0,56

Table 6: Group sociometric status for the variable "Entrepreneur" (E)

	CHOSEN						
Initials of respondents	**O.M.**	**K. J.**	**S. I.**	**S. G.**	**S.P.**	**T.I.**	**DJ. J.**
O.M.			+		+		-
K.J.	-		+	+			
S.I.				+	-		
S.G.	-		+				
S.P.				+		-	
T.I.		-		+			-
DJ.J.				+	-		
CHOOSES							

7: Sociometric matrix for the variable "Administrator" (A)

SOCIOM. INDICES	TAGS	O.M.	K. J.	S. I.	S. G.	S.P.	T.I.	DJ. J.
Got positive	**Do(+)**	0	0	3	5	1	0	0
Got negative	**Do(-)**	2	1	0	0	2	1	2
Give positive	**Da(+)**	2	2	1	1	1	1	1
Give negative	**Da(-)**	1	1	1	1	1	2	1
Leadership index	**Lx**	2	2	**4**	6	2	1	1
Rejection index	**Ex**	3	2	**1**	1	3	3	3
Positive elective status	**Is(+)**	0	0	**0,5**	0,83	0,16	0	0
Negative elective status	**Is(-)**	0.33	0,16	**0**	0	0,33	0,16	0,33
Positive expansiveness	**Ie(+)**	0,33	0,33	**0,16**	0,16	0,16	0,16	0,16
Negative expansiveness	**Ie(-)**	0,16	0,16	**0,16**	0,16	0,16	0,33	0,16

Table 8: Individual sociometric statuses of the subjects and the evaluation
of the levels for the variable "Administrator" (A)

SOCIOMETRIC INDEX	TAG	RESULT
Group Cohesion Index	**GCI**	0,16
Group Expansion Index	**GEI**	1,28
Group Tension Index	**GTI**	1,14
Affective Atmosphere Index	**AAI**	0,52

Table 9: Group sociometric status for the variable "Administrator" (A)

	CHOSEN						
Initials of respondents	**O.M.**	**K. J.**	**S. I.**	**S. G.**	**S.P.**	**T.I.**	**DJ. J.**
O.M.	■	-	+				
K.J.	-	■				+	
S.I.			■	+		+	-
S.G.		-	+	■		+	
S.P.		-			■		+
T.I.	-		+			■	
DJ.J.	-	-			+	+	■
CHOOSES							

Table 10: Sociometric matrix for the variable "Integrator" (I)

SOCIOM. INDICES	TAGS	O.M.	K. J.	S. I.	S. G..	S.P.	T.I.	DJ. J.
Got positive	**Do(+)**	0	0	3	1	1	4	1
Got negative	**Do(-)**	3	4	0	0	0	0	1
Give positive	**Da(+)**	1	1	2	2	1	1	2
Give negative	**Da(-)**	1	1	1	1	1	1	2
Leadership index	**Lx**	1	1	**5**	3	2	**5**	3
Rejection index	**Ex**	4	5	**1**	1	1	**1**	3
Positive elective status	**Is(+)**	0	0	**0,50**	0,16	0,16	**0,66**	0,16
Negative elective status	**Is(-)**	0,50	0,66	**0**	0	0	**0**	0,16
Positive expansiveness	**Ie(+)**	0,16	0,16	**0,33**	0,33	0,16	**0,16**	0,33
Negative expansiveness	**Ie(-)**	0,16	0,16	**0,16**	0,16	0,16	**0,16**	0,33

Table 11: Individual sociometric statuses of the subjects and the evaluation
of the levels for the variable "Integrator" (I)

SOCIOMETRIC INDEX	TAG	RESULT
Group Cohesion Index	**GCI**	0,50
Group Expansion Index	**GEI**	1,42
Group Tension Index	**GTI**	1,14
Affective Atmosphere Index	**AAI**	0,55

Table 12: Group sociometric status for the variable "Integrator" (I)

3. DISCUSSION

Graphic representation is applicable in smaller tourist organizations with a smaller number of employees, because the results on a sociogram must be clear and easy to perceive. Since there were 7 subjects in this example, sociograms were done for each variable (Figures: 1 and 2).

Quantitative display of results is a mathematical model of sociometric matrix making, where the use of defined formulae gives us three types of results:

- individual sociometric index (the status of each subject and the evaluation of the level of the presence of the characteristics of the tested variable); (Tables 1,2,4,5,7,8,10,11)
- group sociometric index (it shows interpersonal relationships and the status of a group within a bigger unit);
- the state of social relationships and the level of their disharmony within an organization-group (Tables 3,6,9, and 12 – **GTI** [Group Tension Index] results and **AAI** [Affective Atmosphere Index] results).

When making a sociometric matrix, positive answers are marked by (+), plus sign inside brackets, and negative ones by (-), minus sign inside brackets, after the mark designating a subject.

The status of each individual within the group surveyed represents the Individual Sociometric Index, and it can be:
- positive selection status IS (+), and it is calculated using the formula: Do(+) / N-1
- negative selection status IS (-), and it is calculated using the formula: Do(-) / N-1
- positive expansion IE (+), and it is calculated using the formula: Da(+) / N-1
- negative expansion IE (-), and it is calculated using the formula: Da(-) / N-1
- leadership index (Lx), and it is calculated using the formula: Lx=Do(+)+Da(+)
- rejection index (Ex), and it is calculated using the formula: Ex=Do(-)+Da(-)

The meaning of the symbols in the formulae:
- N= the number of subjects within a group;
- Do(+) = the total number of the positive choices that the subject received;
- Do(-) = the total number of the negative choices that the subject received;
- Da(+) = the total number of the positive choices that the subject made;
- Da(-) = the total number of the negative choices that the subject made.

Table 13 represents the way of categorizing subjects into groups of sociometric status for standardized scores.

The indicators of the structure of relations within a group or a group's position within a bigger unit represent the Group Sociometric Index, which can be expressed in the following way: Group Expansion Index **(GEI)** = sum(+) / N, where sum(+) = the sum of all positive votes, and N= the number of subjects, and Group Cohesion Index **(GCI)** = R / Rm, where R= the number of mutual choices within a group; N = the number of subjects; Rm = the number of possible mutual choices (Rm = N(N-1) / N).

The state of an organization's(group's)social relations and the level of their disharmony can be expressed in the following way: Group Tension Index **(GTI)** = sum(-) / N, where sum = the sum of all negative votes, and N = the number of subjects; or: Affective Atmosphere Index **(AAI)** = sum(+) / sum(+) + sum (-), where sum(+) = the sum of all positive votes, and sum(-) = the sum of all negative votes.

Higher value of GEI indicates better interpersonal relations within a group. Higher value of GTI indicates higher intolerance and unfavorable socio-emotional climate within a group. The value of Affective Atmosphere Index **(AAI)** if all the votes are negative is zero.

Groups of sociometric status	Score of positive choice	Score of negative choice	Score of social preference	Score of social influence
Popular	> 0	< 0	> 1	
Rejected	< 0	> 0	< -1	
Controversial	> 0	< 0		> 1
Neglected	< 0	< 0		< -1
Average				
- not belong to the specified scores				

Table 13: Classification of the subjects into groups of sociometric status
Source: own adaptation after [20], pp. 24-41

1. **Testing of the variable "Producer" (P),**
   - The highest value of the Leadership Index (Lx=6), as well as the value of the Positive Selection Status (Is(+)=0.83), is possessed by the subject S.I. The subject S. P. is in the second place (Lx=4, and Is(+)=0.50).
   - The lowest value of the Rejection Index (Ex=1), as well as of the Negative Selection Status (Is(-)=0), is also possessed by the subject S. I. The subject S. P. has the same lowest results (Ex=1, and Is(-)=0).
   - The lowest values of the Index of Negative Expansion (Ie(-)=0.16)is possessed by both S. I. and S. P. (as well as by the majority of the subjects).
   - The Index of Positive Expansion is the same for S. I. and S. P. (Ie(+)=0.16), which represents something above the usual values.

Based on these results, it can be concluded that the subject **S. I.** is the person who possesses a highly dominant characteristic of manager "producer" (P) when compared to other tested candidates, and that appointing S. I. a team member is necessary.

The subject S. P. also stands out as the second in line as the candidate for the team member, regarding the tested variable "P" criterion, in accordance with the analyzed values represented in the tables.

2. **Testing of the variable "Entrepreneur" (E),**
   - The highest value of the Leadership Index (Lx=6), as well as of the Positive Selection Status (Is(+)=0.83), is possessed by the subject S. P. The second in order is T. I. (Lx=4, and Is(+)=0.50).
   - The lowest value of the Rejection Index (Ex=1), as well as of the Negative Selection Status (Is(-)=0), is also possessed by the subject S. P. The subject T. I. has the same lowest results (Ex=1, and Is(-)=0).
   - The value of the Index of Negative Expansion is the same for all subjects (Ie(-)=0.16), including S. P. and T. I.
   - The Index of Positive Expansion is the same for S. P. and T. I.(Ie(+)=0.16), which represents something above the usual values.

Based on these results, it can be concluded that the subject **S. P.** is the person who possesses a highly dominant characteristic of manager "entrepreneur" (E) when compared to other tested candidates, and that appointing S. P. a team member is necessary.

The subject T. I. also stands out as the second in line as the candidate for the team member, regarding the tested variable "E" criterion.

3. **Testing the variable "Administrator" (A),**
   - The highest value of the Leadership Index (Lx=6), as well as the value of the Positive Selection Status (Is(+)=0.83), is possessed by the subject S. G. The subject S. I. is in the second place (Lx=4, and Is(+)=0.50).
   - The lowest value of the Rejection Index (Ex=1), as well as of the Negative Selection Status (Is(-)=0), is also possessed by the subject S. G. The subject S. I. has the same lowest results (Ex=1, and Is(-)=0).
   - The value of the Index of Negative Expansion (Ie(-)=0.16) is the same for all subjects, including S. G. and S. I., except T. I. (Ie(-)=0.33).
   - The Index of Positive Expansion is the same for S. G. and S. I. (Ie(+)=0.16), which represents something above the usual values.

Based on these results, it can be concluded that the subject **S. G.** is the person who possesses a highly dominant characteristic of manager "administrator" (A) when compared to other tested candidates, and that appointing S. G. a team member is necessary.

The subject S. I. also stands out as the second in line as the candidate for the team member, regarding the tested variable "A" criterion.

4. **Testing the variable "Integrator" (I),**
   - The highest value of the Leadership Index (Lx=5) is possessed by the subjects T. I. and S. I. The highest value of the Positive Selection Status (Is(+)=0.66) is possessed by the subject T. I. The subject S. I. is in the second place (Is(+)=0.50).
   - The lowest value of the Rejection Index (Ex=1), as well as of the Negative Selection Status (Is(-)=0), is also possessed by the subject T. I. The subject S. I. has the same lowest results (Ex=1, and Is(-)=0).
   - The value of the Index of Negative Expansion is the same for all subjects (Ie(-)=0.16), including T. I. and S. I.
   - -The Index of Positive Expansion is Ie(+)=0.16 for T. I., and Ie(+)=0.33 for S. I., which does not represent an important difference.

4. **CONCLUSION**

Based on the research results, obtained by applying the sociometric concept of the model of the tourist organization strategic management for choosing team members, presented in the sociograms in the pictures 1,2,3 and 4, as well as the results in the tables 1-12 with the goal of identifying the best managers (among the seven tested by sociometric method), using the Adizes model of dominant characteristics of managers (PAEI) as variables of sociometric criteria, the following conclusions can be made:

Based on these results, it can be concluded that the subject T. I. is the person who possesses a highly dominant characteristic of manager "integrator" (I) when compared to other tested candidates, and that appointing T. I. a team member is necessary.

The subject S. I. also stands out as the second in line as the candidate for the team member, regarding the tested variable "I" criterion.

Based on the obtained results for the tested variables P, E, A, I, we can draw a conclusion according to the individual values for each variable separately – these values are relevant for choosing team members and are the following: Leadership Index (Lx), Rejection Index (Ex(+)), Positive Selection Status (Is(+)), Negative Selection Status (Is(-)), Positive Expansion (Ie(+)), Negative Expansion (Ie(-)). For each tested variable certain individual stand out, which shows a pronounced presence of the dominant characteristic typical for the tested variable. In accordance with such results, and taking into account the individuals with the best results for each tested variable, we can suggest the team members.

The results show that when testing the variable P-producer the first place was "won" by the subject S. I, and the second place by the subject S. P.; for variable E-entrepreneur, the subject S. P. has the best values, and T. I. is in the second place; for variable A-administrator, the subject S. G. has the best values, and S. I. is in the second place; and for the variable I-integrator, the subject T. I. has the best value, and S. I. is in the second place.

If we consider all the results for the tested variables more thoroughly, we can conclude that among our chosen candidates for team members there are no following Adizes categories "Lone Ranger" (P---), "Arsonist" (--E-), "Bureaucrat" (-A--), and "Super Follower" (---I). In these categories only one dominant PAEI characteristic is present, while the other three are absent. The chosen candidates have all four characteristics of the Adizes model, but in each candidate one of them is dominant [2].

Taking into account all the results obtained by the research conducted by the sociometric concept of the model, what is suggested to the strategic management is that the team should be made up of: S. I. – the team leader, S. P – team member, S. G. – team member, and T. I. – team member.

The results show that S. I. has a dominant P-producer characteristic (the sum of all traits according to the Adizes model), but also that S. I. is ranked second in tests for the variables A-administrator and I-integrator. Such results make S. I. suitable for the position of the team leader.

We also notice that these four subjects' results for all tested variables make them stand out among the other subjects, which additionally confirms that the right complementary team was chosen.

Considering the fact that the subject matter of this paper is the possibility of applying the sociometric concept of the model for choosing team members with the goal of using internal management sources for forming teams for the needs of strategic management, we did not go further into the problem of "testing" the chosen team. It should be said that in further research the usual sociometric method can be applied, as an irreplaceable "tool" for revealing the state of interpersonal relations within a team, the interactions among the team members, as well as the group cohesiveness of the team, along with standard results for identifying "leaders" (the favorite ones), the rejected, the presence of "dyads" or "cliques" (mutual selection) etc.

Final conclusion of this research is that the sociometric concept of the model can be successfully applied in human resource management of the tourist organization with the goal of appointing team members from internal sources, and that a team or the needs of strategic management can be chosen in this way, which the presented example proves.

REFERENCES:

[1] Pržulj,Ž. (2011) *Menadžment ljudskih resursa*, Educons univerzitet, Novi Sad.

[2] Adižes,I. (2008) *Upravljanje promenama, prevod*, Novi Sad, Graph Style

[3] Ballesteros-Pérez, P., González-Cruz, M.,C., Fernández-Diego, M. (2012) *Human resource allocation management in multiple projects using sociometric techniques*, International Journal of Project Management,30, pp. 901–913.

[4] Hollenbeck, J.,H., Scott, D., Guzzo, R. (2004) *Bridging the Gap between I/O research and HR practice: improving team composition, team training and task design,* Human Resource Management, 43, pp.353–366.

[5] Gutiérrez, J., H., Astudillo, C., A., Ballesteros-Pérez, P., Mora-Melià, D., Candia-Véjar, A. (2016) *The multiple team formation problem using sociometry*, Computers &Operations Research, 75, pp. 150–162

[6] Campion, M.,.A., Medsker, G., J., Higgs, A,.C. (1993) *Relations between work group characteristics and effectiveness: implications for designing effective work groups.* Personnel Psychology, 46, pp. 823–847.

[7] Tubaro, P., Ryan, L., D'Angelo, A. (2016) *The Visual Sociogram in Qualitative and Mixed-Methods Research,* Sociological Research Online, SAGE Publications, 14 (2), pp.1-18.

[8] Froldova, V., (2017) *Sociability and its impact on successful team work in an online-environment,* Journal of Language and Cultural Education, 5(2), pp. 53- 69.

[9] Erić,D. (2000) *Uvod u menadžment*, Ekonomski fakultet Beograd, Čigoja

[10] Ahmetagić,E. (2007) *Organizacija preduzeća,* Ekonomski fakultet Subotica, Subotica

[11] Pilbeam, S., Corbridge, M. (2002) *People Resourcing-HRM in Practice*, Second edition, Prentice Hall

[12] Gahagen,Dž. (1978*) Interpersonalno i grupno ponašanje*, Nolit, Beograd

[13] Rot,N. (1988) *Psihologija grupa*, Zavod za udžbenike i nastavna sredstva, Beograd

[14] Zimanji,V.,Štangl Šušnjar,G. (2005) *Organizaciono ponašanje*, Ekonomski fakultet Subotica, Univerzitet u Novom Sadu.

[15] Petrović,V. (2015) *Sociometrijski upitnik*, Razvojna i pedagoška psihologija, Razvoj i učenje, Beograd.

[16] Moreno,J.L. (1995) *Osnovi sociometrije.* Beograd: Savremena škola

[17] Moreno,J.L. (1978) *Who Shall Survive. Foundations of Sociometry, Group Psychotherapy and Sociodrama*, Beacon House Inc.

[18] Bandjur,V., Potkonjak, N. (1996*) Pedagoška istraživanja u školi*, Beograd, Učiteljski fakultet.

[19] Bandjur,V., Potkonjak,N. (1999) *Metodologija pedagogije*, Beograd, Savez pedagoških društava Jugoslavije.

[20] Ilić,M. (2013) *Sociometrijska istraživanja u pedagogiji*, Zbornik Instituta za pedagoška istraživanja br.1, Beograd