



Application Of Group Analytic Hierarchy Process (Gahp) Method in Ranking the Factors Affecting the Formation of Organizational Networks in Order to Provide More Appropriate Services to Citizens

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Submit Date: 2021-12-26, Accepted Date: 2022-04-03

ABSTRACT

Objective: The present study aims to provide a framework for identifying the importance of components involved in the formation of organizational networks in order to provide more appropriate services to citizens in District 9 of Mashhad Municipality.

Method: The present research is called applied in terms of purpose, the method of which is based on descriptive-survey method. The statistical population includes all employees of the district 9 of Mashhad Municipality including 173 people. The research method used in this research is survey and cross-sectional. In order to collect data, a questionnaire was used. Using simple random sampling, 143 questionnaires were distributed in the research population. In order to confirm the validity of the questionnaire, face validity and construct validity were used using confirmatory factor analysis. The reliability of the questionnaire was assessed using Cronbach's alpha test. Also, the Group Analytic Hierarchy Process (GAHP) Method has been used to rank the factors affecting the formation of organizational networks.

Findings: The findings showed that the factors affecting the formation of organizational networks in order of importance are individual, group, organizational, technology and participatory leadership style factors.

Originality / Value: The value of the present study is in ranking the factors affecting the formation of organizational networks in District 9 of Mashhad Municipality of Iran according to which, first by reviewing the research literature and implementing the Delphi method, using the opinions of relevant experts and specialists and applying the GAHP method, the five individual, group, organizational, technology and participatory leadership styles factors were identified and prioritized as effective factors.

Keywords: *Communications, fuzzy analytic hierarchy process, Group Analytic Hierarchy Process (GAHP) Method, Multi-criteria decision-making, Organizational Networks.*

1. Introduction

The present world is a world full of rapid changes, many changes have taken place in the pillars of society, and rapid advances in human science and technology have put human in such a situation that bears little resemblance to the past. One of the fundamental changes that has happened in management is the change in the attitude towards the organization.

Until a few decades ago, organizations were used as tools to create coordination between individuals and control them to achieve goals, but today organizations are considered with a broader perspective and special attention is paid to concepts such as multiple networks. Etzioni introduces today's society as an organizational society (1).

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Organizational communication is a complex issue and its role in the performance of the organization is very important. From a network perspective, individual interests, decisions, and skills are related to the interests, decisions, and skills of others in the organizational network (2). In this study, the goal is to provide a framework to identify the importance of components involved in the formation of organizational networks. Therefore, according to the research background, some components were identified and then using the Group Analytic Hierarchy Process (GAHP) Method the identified components were ranked to examine the status of organizational networks in District 9 of Mashhad Municipality of the Islamic Republic of Iran. Finally, the results showed that the factors affecting the formation of organizational networks in order of importance are individual, group, organizational, technology and participatory leadership style factors. Organizational networks are a model of relationships between individuals and formal and informal groups, each of which can form a network on its own (3). The network approach can play a role in the structure of decision interdependence, information dissemination and decision rules, information accumulation and possible conflicts in the network (4). Directional patterns of communication between small groups are called communication networks. These networks may be formal or informal. Network communication in groups is much more complex than individual communication (5). Examining communication networks can provide researchers with more information about the nature of the group and the organization. By knowing the communication network in the organization, we can discuss leadership position, rank, group efficiency, members' relationships and their satisfaction with the group (6). In addition, communication networks are an important factor in determining the structure of the group. Because the network shows the method in which group members are related to each other and consistent patterns of relationships, authority, and positional structure of the group have a close relationship with the group communication network. It is clear that if the manager wants to use networks effectively to complete the management process, he must be familiar with the complexities of these networks. Considering the effects of communication networks, managers must be aware of the factors that determine which network will be effective in the organization and therefore can deploy and create networks that are very effective (7).

Organizational network analysis is a kind of X-ray to the operating organization, a powerful tool for revealing procedures and patterns of knowledge transfer and collaboration among the strategic groups of the organization that may not be normally obvious and clear. For example, in a study of organizational network analysis on managers and executives in the departments of exploitation and production of a large oil organization, significant results were obtained. The group, which was in the midst of using a new technology to increase the speed of knowledge transfer among members of oil exploitation hardware companies, and was also very interested in improving its skill as a group to create and share knowledge accordingly. The research worked well together and organizational network analysis revealed a profound difference between the formal and defined structure of the group and the structure of informal relationships (8). Mohammadi Kangrani et al (2011) in a study examining and analyzing the network of formal and informal inter-organizational relations, using the network analysis approach in comparison with environmental organizations in Kohgiluyeh and Boyer-Ahmad Province, concluded that organizations that have faced managerial inefficiencies have used the inefficiency network analysis approach (10). In his master's thesis using the Delphi method, he identified the key factors of success in social networks of non-governmental organizations. The primary factors listed were 19 success factors. These factors were studied in two non-governmental organizations: The Zoroastrian Students' Association and the Diabetes Information Association. Then, using the opinions of experts in each organization and the Delphi method, finally 6 key factors were identified as effective factors in the growth and strength of social networks of non-governmental organizations (11). In their study, they examined the relationship between social network and job status among students at the University of Tehran. The results of their research showed that in general, the network of social relations has a positive relationship with the job status of students, and among these, the role of social interactions is more than the structure, sponsorships and formal and informal relations. Research has shown that proper communication in organizational networks can have a potential impact on productivity, training, and innovation of the organization. An organizational network is a set of employees and the relationships between them, a network of formal and informal relationships between members of that organization. These networks include interpersonal relationships that

are created spontaneously to meet the needs of individuals. Employees also use informal relationship networks to accelerate the execution and division of tasks. Experts generally agree that organizational actors use formal and informal collaboration to achieve their goals.

Lesser (2000) believes that one of the ways to create social capital in organizations is to gather informal groups of employees to share knowledge and skills. These professional groups, which may have a small number or hundreds of members, are based on collaborative practices. People with shared experiences, tools, and challenges find each other (physical or virtual) and meet to resolve issues and connect with people who share common work interests. These groups help to create organizational social capital in the following ways (12).

- Groups, as a clearing house within the network, help people in the group connect with each other by identifying those who have relevant knowledge.
- Groups act as a reference mechanism, quickly empowering individuals to assess the knowledge of other members without people within the network interacting with each other.
- Professional groups help people outside the network connect with those designated as network members.
- By being able to bring people together to develop knowledge related to them and to participate in it, these groups provide an opportunity for individuals to test their reliability and commitment to other members (13).

Studies show that informal relationships can be both negative and harmful. These relationships help people to communicate with each other, support each other, and meet needs for social interaction (14). Therefore, the management issues of organizations can be fully understood only when, in addition to the formal structure of the organization, one be aware of the norms, groupings and informal relationships between them. Therefore, according to the above explanations and with the aim of enabling managers of organizations to take an important step in improving efficiency, training, knowledge sharing, resolving organizational conflicts, reducing tensions, changing organizational culture, etc. and make better decisions, we decided to study the factors affecting the formation of organizational networks in District 9 of Mashhad Municipality of Iran.

The topic of research is important in several ways, which is mentioned below: The study of organizational networks can provide researchers

with more information about the nature of formal and informal groups. By understanding organizational networks, we can do a great deal of research on leadership positions, the effectiveness of member relationships, and member satisfaction. Organizational networks are an important factor in determining the structure because the network shows the way in which members are related to each other and compatible patterns of relationships, authority and structure are closely related to the communication network (15). Clearly if the manager wants to use networks effectively to complete the management process, he must be familiar with the complexities of these networks and can be expected to increase the effectiveness of communication within networks (5). Organizational Networks Managers need to be aware of the factors that determine which network will be effective or destructive in the organization and therefore can deploy and create networks that are effective for the organization.

The organization can be considered as a community with a specific purpose. It can also be defined as a network of individuals (16). Addressing organizations as a network is an accepted tradition in sociology (17). It is understood that individual interests, decisions and skills are related to the interests, decisions and skills of others in the organizational network (6). Therefore, recognizing the factors affecting the formation of organizational networks helps the organization's management in analyzing these networks. Because proper communication in organizational networks can have a potential impact on productivity, training, innovation and the like.

In recent decades, there has been rapid development and popularity of methods of MCDM— multi-criteria decision-making and their application in various fields of scientific research. MCDM is increasingly used in cases where it is desirable to restructure a multi-criteria problem and break it down into separate subunits or when it is necessary to select the most optimal choice of an alternative. MCDM provides a formal framework for modeling multidimensional decision-making problems, especially those that require systems analysis, including analysis of decision complexity, the relevance of consequences, and the need for accountability of decisions made (18).

In the last few decades, the application of MCDM methods has increased, as well as the number of techniques for evaluating alternatives and selecting the best of them. Multi-criteria decision making is widely used in solving many of today's problems. These methods can divide into two categories: The

ordinal, in which the information about criteria has a qualitative nature and require decision-makers to assign grades to each alternative, and the cardinal, where information on choices is quantitative and can be used directly in the decision-making process (19).

The MCDM is an efficient method used to address complex choice issues, including multiple criteria and options, especially for qualitative variables. Recent literature notes many typical applications of different MCDM methods (20). The MCDM method quantifies qualitative criteria and helps decision-makers have a robust and more accurate basis on which to make decisions. The growing complexity of the decision-making context and the ever-present uncertainty about the consequences of the decision-making process have conditioned the appropriate changes in the observation, modeling, and solving real problems (21). Models become multi-complex in the mathematical sense, and to overcome this for some categories are developed and formalized methods of solving problems. Scientists agreed that the ranks of the alternatives differ when various MCDM methods are used for their determination. Decision-making in complex problems, including business and real-life decisions, implies an appropriate and relevant decision support system. Everyday problems include multiple data sets, some of them are accurate or objective, while others are uncertain or subjective. The theory of fuzzy sets laid the foundation for significant modeling uncertainty, imprecision, and vagueness (22). The methodology of fuzzy sets has made significant progress in both theoretical and practical studies (23). When solving a particular decision-making problem, it is difficult to determine which method is the most appropriate to use. Most of the authors agree there is no perfect method suitable for application in different decision-making fields. When various MCDM methods give contradictory results, the correctness of the method choice arises. If the selection is made following the decision-makers' priority, a satisfactory answer can be obtained (24). On the other side, many MCDM methods meet the formal requirements of a particular decision-making problem and can be chosen regardless of the problem specificity. Various approaches can provide different solutions to the same problem. Differences in results, originating from various calculation methodologies, can be influenced by several factors, and the assessment of the accuracy and reliability of the results is current in many pieces of research. Some of the authors deal with the assessment benchmarking of MCDM comparison of methods (25).

In this paper, improvements AHP methods regarding the failure to take into account the uncertainty of expert opinion by introducing granular mathematics, specifically by applying fuzzy AHP methods with triangular and trapezoidal membership function and applying interval grey methods, are considered.

Concept of AHP

AHP method is used to face a complex decision-making problem which is one of the most widely used technique for multi attributes decision making (MADM). Multiple criteria decision making (MCDM) is concerned with theory and methodology that can treat complex problems which are characterized by incommensurate and conflicting criteria or objectives.

The AHP is an effective tool in structuring and modeling multi-criteria problem and has been successfully used in a variety of construction management application (26). Cakir and Canbolat (2008), mention several areas of AHP applications such as supplier selection, performance evaluation, project management, inventory management, resource allocation, financial planning and credit scoring, portfolio management, budgeting decisions, technology management, distribution channel management, promotion and recruitment decisions, socio-economic planning, energy resources planning, conflict resolution and common vote prediction (27).

However, the basic steps in using AHP remain the same in all the applications and consist of:

1. Description of complex decision problem as a hierarchy.
2. The use of pair-wise comparisons to estimate the relative weight (importance) of the various elements on each level of the hierarchy.
3. The integration of these weights to develop an overall evaluation of decision alternatives
4. Estimation of the consistency ratio (CR):

$$CR = \frac{CI}{RI}$$

where RI is the random index and CI is the consistency index. The formula for CI is:

$$CI = \frac{\lambda_{max} - n}{n - 1}$$

λ_{max} is the maximum value of the consistency vector.

The consistency ratio indicates the degree of consistency with answers. A higher number means less consistency, while a lower number means that data collected are consistent. In general, if the consistency ratio is 0.10 or less the decision

maker's answers are relatively consistent. For a consistency ratio that is greater than 0.10, the decision maker should seriously consider reevaluating his or her responses during the pairwise comparisons (28).

GAHP

AHP can be particularly useful with groups. Each member's assessments can, of course, be evaluated for priorities and inconsistency, and then the group rollup (and group segments) may be synthesized and viewed the same way. This is considered a powerful way to build consensus, as each constituent can see where he/she stands and compare it to the group as a whole. If the group has a high inconsistency ratio (more than 0.1, or so) segmenting might reveal where the differences in agreement are and why. That, too, can help lead to better understanding and consensus. We use geometric average of member's assessment (x_{ij}):

$$x'_{ij} = \left(\prod_{i=1}^k x_{ij} \right)^{\frac{1}{k}}, i, j = 2, \dots, n, i \neq j, i = 2, 3, \dots, K$$

where l = Decision maker number, and k = the number of decision maker.

Considering the above and also the increasing importance of the role of effective communication which is the factor of managers achieving organizational goals, increasing the level of productivity and satisfaction of employees and stakeholders, the main purpose of this study is to answer the question: What are the factors affecting the formation of organizational networks effective in providing services to citizens in District 9 of Mashhad Municipality of the Islamic Republic of Iran and what is their ranking?

2. Research Methods

The present study is descriptive research in terms of data collection and based on descriptive research category, it is considered as survey research as the researcher has collected data using sampling and then generalized the results to the community using statistical analysis. Field method has been used to collect the required data and information. Other data and information in the field of literature of the topic, determining the theoretical framework and indicators and information related to the statistical community and its characteristics have been collected from library studies and study of organizational documents and internet search. The statistical population includes all employees of District 9 of Mashhad Municipality of Iran with

173 people. The statistical sample size was considered 119 people using Cochran's formula and the samples were selected by simple random sampling. In order to collect data using a questionnaire, the first questionnaire was pairwise comparisons to rank the factors affecting the formation of organizational networks and the second questionnaire was used to examine the District 9 of Mashhad Municipality of Iran with 5 dimensions: individual, group, organizational, technology, participatory leadership style and using random sampling, 143 questionnaires were distributed in the research population, and among the returned questionnaires, 122 were recognized as valid. In order to confirm the validity of the questionnaire, face validity was used with the help of 5 professors of the Faculty of Management of Islamic Azad University, Mashhad Branch and also structural validity was used with the help of confirmatory factor analysis. The reliability of the questionnaire was assessed using Cronbach's alpha test. Cronbach's alpha was 0.91 which indicates the high reliability of the instrument used. Also, to check the data obtained from the questionnaire SPSS, LISREL, EXPERT, and CHoice were used. In this research, the GAHP Method has been used to rank the effective factors in the formation of organizational networks.

AHP (fuzzy or interval approach) is suitable for MCDM problems where it is not possible to accurately quantify the impact of criteria on decision problems. The introduction and implementation of AHP are to minimize the subjective factors that prevail in the decision-making process and increase the transparency of the prioritization process.

Trapezoidal and Triangular Fuzzy Numbers

A fuzzy number is a fuzzy set $F = \{(x, \mu_F(x)), x \in R\}$, where $x \in R$, and $\mu_F(x): R \rightarrow [0,1]$ is a continuous function. In this paper, trapezoidal and triangular fuzzy numbers are used.

A trapezoidal fuzzy number can be denoted as $\bar{a} = (l, m^l, M^u, u)$ and the membership function is (29).

$$\mu_{\bar{a}}(x) = \begin{cases} \frac{x-l}{m^l-l} & x \in (l, m^l) \\ 1 & x \in (m^l, m^u) \\ \frac{u-x}{u-m^u} & x \in (m^u, u) \\ 0 & \text{otherwise} \end{cases}$$

For an arbitrary two trapezoidal fuzzy numbers $\bar{a}_1 = (l^1, m_1^l, m_1^u, u_1)$ and $\bar{a}_2 = (l^2, m_2^l, m_2^u, u_2)$ addition, subtraction, multiplication, and division are defined in Table (1). (30)

Table 1: Arithmetical operations for trapezoidal (left) and triangular fuzzy numbers (right).

| | |
|--|---|
| $\tilde{a}_1 \oplus \tilde{a}_2 (l_1+l_2, m_1^l+m_2^l, m_1^u+m_2^u, u_1+u_2)$ | $\tilde{a}_1 \oplus \tilde{a}_2 (l_1+l_2, m_1+m_2, u_1+u_2)$ |
| $\tilde{a}_1 \ominus \tilde{a}_2 (l_1-u_2, m_1^l-u_2^u, m_1^u-m_2^u, u_1-l_2)$ | $\tilde{a}_1 \ominus \tilde{a}_2 (l_1-u_2, m_1-m_2, u_1-l_2)$ |
| $\tilde{a}_1 \odot \tilde{a}_2 (l_1.l_2, m_1^l.m_2^l, m_1^u.m_2^u, u_1.u_2)$ | $\tilde{a}_1 \odot \tilde{a}_2 (l_1.l_2, m_1.m_2, u_1.u_2)$ |
| $\tilde{a}_1 \oslash \tilde{a}_2 (l_1 u_2, m_1^l/m_2^u, m_1^u/m_2^l, u_1 l_2)$ | $\tilde{a}_1 \oslash \tilde{a}_2 (l_1 u_2, m_1/m_2, u_1 l_2)$ |
| $K\tilde{a}_1 = (kl_1, km_1^l, km_1^u, ku_1)$ | $K\tilde{a}_1 = (kl_1, km_1^l, ku_1)$ |

In the case when $m^l=m^u=m$ trapezoidal fuzzy number becomes triangular one $\tilde{a}_=(l, m, u)$. The corresponding membership function is now

$$\mu_F(x) = \begin{cases} \frac{x-l}{m-l}, & x \in (l, m) \\ \frac{u-x}{u-m}, & x \in (m, u) \\ 0, & \text{otherwise} \end{cases}$$

The corresponding arithmetical operations for two triangular fuzzy numbers $\tilde{a}_1=(l_1, m_1, u_1)$ and $\tilde{a}_2=(l_2, m_2, u_2)$ and $K \in R$ are also present in table (1).

Trapezoidal and Triangular Fuzzy AHP Algorithm Analytical hierarchical process, as a methodology of multi-criteria decision-making, since its inception, has experienced resounding development in theoretical and practical terms. The fuzzy AHP method is an extension of the crisp AHP method, where estimates are presented with fuzzy values (31). Many researchers express a lot of methods and applications of the fuzzy AHP method (32,33). These methods are used to find the preference weightings of indicators by subjective assessment (34,35). Trapezoidal fuzzy AHP has multiple application possibilities (36). The meaning of triangular and trapezoidal fuzzy numbers is given in Table2.

Table 2: The meaning of trapezoidal and triangular fuzzy numbers

| Meaning of Fuzzy Numbers | Trapezoidal Fuzzy Numbers | Inverse Trapezoidal Fuzzy Numbers | Triangular Fuzzy Numbers | Inverse Triangular Fuzzy Numbers |
|--------------------------|---------------------------|-----------------------------------|--------------------------|----------------------------------|
| Equal importance | (1,1,1,2) | (1 2, 1,1,1) | (1,1,3) | (1 3, 1, 1) |
| Intermediate values | (1,1,3,4) | 1 4, 1 3, 1,1) | (1,2,3) | (1 3, 1 2, 1) |
| Weak dominance | (1,2,4,5) | (1 5, 1 4, 1 2,1) | (1,3,5) | (1 5, 1 3, 1) |
| Intermediate values | (2,3,5,6) | (1 6, 1 5, 1 3, 1 2) | (3,4,5) | (1 5, 1 4, 1 3) |
| Strong dominance | (3,4,6,7) | (1 7, 1 6, 1 4, 1 3) | (3,5,7) | (1 7, 1 5, 1 3) |
| Intermediate values | (4,5,7,8) | (1 8, 1 7, 1 5, 1 4) | (5,6,7) | (1 7, 1 6, 1 5) |
| Demonstrated domination | (5,6,8,9) | (1 9, 1 8, 1 6, 1 5) | (5,7,9) | (1 9, 1 7, 1 5) |
| Intermediate values | (6,7,9,9) | (1 9, 1 9, 1 7, 1 6) | (7,8,9) | (1 9, 1 8, 1 7) |
| Absolute domination | (8,9,9,9) | (1 9, 1 9, 1 9, 1 8) | (7,9,9) | (1 9, 1 9, 1 7) |

3. Findings

After reviewing the literature and research background to identify the factors affecting the formation of organizational networks in order to integrate opinions using EXCEL, the arithmetic mean of the importance of the criteria was calculated and the criteria were determined in order. Criteria that were most important according to the results of the analysis of the initial questionnaire; that is, those ten criteria that had a score higher than the arithmetic mean of the total questionnaire responses were kept, and a number of criteria that had an arithmetic mean lower than the total mean were removed from the process. Then, using the opinions of supervisors, consultants, and experts, the identified variables were classified into 5 dimensions (individual, group, participatory leadership style,

organizational, and technology), which are presented in Table (3).

Table 3: ranking of factors with GAHP method

| Factor | Final Weight | Final Rank |
|--------------------------------|--------------|------------|
| Individual | 0.366 | 1 |
| Organizational | 0.123 | 4 |
| Group | 0.313 | 2 |
| Technology | 0.070 | 5 |
| Participatory Leadership Style | 0.128 | 3 |

As it is clear from the GAHP results, individual factors have the most impact on the formation of organizational networks, and group factors, participatory leadership style factors, organizational factors and technology factors are in the next ranks, respectively.

In order to assess the status of factors affecting organizational networks in District 9 of Mashhad Municipality of Iran, the following scale has been designed and presented. In this scale, increasing the

average score indicates the importance of that factor from the perspective of the statistical sample. As can be seen, considering that likert five-point scale has been used to evaluate the respondents' opinions, dividing the initial and final limits of this scale (1 and 5) into two equal parts determines the mean which is 2.5. Therefore, variables that are in the range of 2.5 to 3.5 have a moderate impact on organizational networks in terms of statistical sample, variables that are in the range of less than 2.5 have little effect on the

formation of organizational networks and finally, variables in the range of more than 3.5 have had a great impact on the formation of organizational networks.

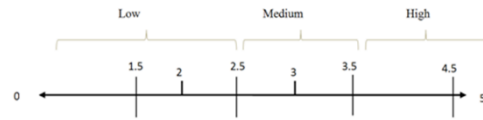


Figure 1: Statistical Population Assessment Scale

Table 4: Mean and Standard Deviation of Research Variables

| Factor | Average | Standard Deviation | Impact |
|--------------------------------|---------|--------------------|--------|
| Individual | 4.07 | 0.62 | High |
| Group | 3.71 | 0.79 | High |
| Organizational | 2.96 | 0.78 | Medium |
| Technology | 3.11 | 0.87 | Medium |
| Participatory Leadership Style | 2.72 | 0.81 | Medium |

As can be seen in Table (4), the individual factor with an average of 4.07 has the most impact and the participatory leadership style factor has the least impact on the formation of organizational networks from a statistical sample perspective. One of the objectives of this research is to achieve a conceptual model in order to determine the desired operational variables and the relationships

between them. The conceptual model can be determined by plotting the various research variables and the relationships between them. Thus, with regard to the calculated factors and consulting with experts, supervisors, and consultants, the proposed research model was presented as follows.

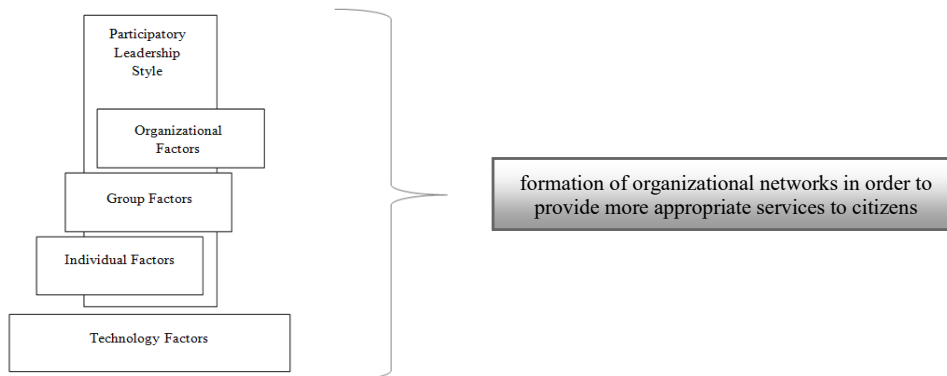


Figure 2: The Proposed Research Model

4. Discussion

In this study, according to the background of research on the factors affecting the formation of organizational networks in order to provide more appropriate services to citizens, 5 components have been identified, which include: individual factors, group factors, organizational factors, technology and participatory leadership style factors. To identify the status of these components in relation with each other and prioritize them, the GAHP method has been used. The individual factor with the average has the most impact and the factor of participatory leadership style has the least impact

on the formation of organizational networks. The results of the present study support the determinants of the nature of communication networks (Farhangi, Safarzadeh, and Khademi, 2013) in individual and group factors and in the calculated index, the variables of interactive distance, motivation, group goals and spatial arrangements are the same in the two studies. According to the main question of the research, we will examine its results:

- The individual factors are the most influential factors in the formation of organizational networks in order to provide more appropriate services to

citizens, the indicators of these factors include expertise, experience, motivation and sociality of the individual. These personal characteristics affect other members. Not only are these indicators important in interpersonal communication, but they also affect the behavior of individuals in small groups and this make it an important factor.

- Supportive goals, information acquisition, meeting the social needs of friendly relations are among the important indicators of the group factors. Sometimes it is not possible to achieve the desired goal individually. Finding an identity by achieving group goals can help people achieve it. The flow of information in groups is faster and the members are quickly informed about the news and information of the organization and by providing information and getting feedback, they can support each other and cause the growth and development of group members.

- Official members rely on hierarchical communication channels. In top-down communication, as the person moves down the hierarchy, the content of information decreases. Given that the technology factor in this study has the lowest rank and one of the indicators of these factors is the role of information systems in meeting the information needs of employees, employees are looking for better information through informal channels to perform their duties. When the use of formal channels decreases, the use of informal channels increases, so the failure to meet the information needs of employees by the organization's information systems has a significant impact on the formation of informal networks in the organization.

- In participatory leadership, the leaders consult with their subordinates on organizational issues and consider their suggestions before making a decision. A participatory manager is someone who believes that no one is going to make a decision for him or her, but that everyone helps him or her manage better. So, implementing a participatory management system requires understanding the position of the organization in relation to the factors of participation. Increasing employee participation requires a positive attitude towards employees' potential abilities and their participation.

- Doing things as a team causes employees to interact with each other in performing their tasks and coordinate work activities with each other and as a result more information is spread among them and provide better services to their customers(citizens). Knowledge is considered as a valuable asset in today's organizations and the

learning organization is an organization that develops learning at all levels, in other words, includes individual, group and organizational learning. Knowledge management can develop learning in the organization. Knowledge management is a system that enhances organizational learning by facilitating the exchange and sharing of explicit and implicit knowledge.

Organizational structure plays the most important role in the effective functioning of today's organizations. Given the importance and role of structure on the effective functioning of organizations, determining what the structure of the organization should be is necessary. Existence of organizational networks is a challenge for management, because each of the factors can be either an opportunity or a threat to the organization. In organizations that have an organic structure in which employees cooperate in performing relevant tasks, the tasks are defined and determined based on working groups, regulations and controls are not applied, there is no precise administrative hierarchy, information is available to many individuals, many individuals control affairs, the communication path between people is horizontal, and tasks are defined flexibly. So, power and influence come from expert experience (rather than organizational authority). Coordination is performed personally and informally. In these organizations, teamwork, collaboration, and informal communication networks are encouraged. In such organizations, having experienced, professional, and sociable employees, participation of the employees in decision making and supporting the tasks as a team are considered as an opportunity, unlike mechanical organizations, where each factor can be a threat to the organization. Given the dynamic environment of today's organizations, organic organizational structure is a basic need for survival and managers should know that there is a way called the best which make it possible to create a division of tasks and coordination in the organization to achieve goals, and that is to pay attention to organizational networks and providing suitable conditions for the formation of these networks in the organization To be able to continue to provide better services to citizens.

Ethical Considerations

In the present research, by introducing the used sources, scientific, professional, ethical and confidentiality principles were observed and the intellectual rights of writers and researchers have been preserved.

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