Int. J. Nonlinear Anal. Appl. 17 (2026) 1, 67–80
ISSN: 2008-6822 (electronic)
http://dx.doi.org/10.22075/ijnaa.2024.33399.4976

Providing a model to improve organizational team performance with the approach of non-economic motives of organizational citizenship behavior in the municipalities of Tehran province

Mehdi Aghighi[a], Rashid Zolfeghari Zaferani[a,*], Behzad Mashali[b]

[a]*Department of Public Administration, Roudhen Branch, Islamic Azad University, Tehran, Iran*

[b]*Department of Industrial Management, Roudhen Branch, Islamic Azad University, Tehran, Iran*

(Communicated by Asadollah Aghajani)

Abstract

The present research aims to "provide a model to improve the organizational team performance with the approach of non-economic motives of organizational citizenship behaviour (OCB) in the municipalities of Tehran province". A quantitative method and structural equation modelling were used to identify the components and indicators of the organizational team performance improvement model identified with the approach of non-economic motives of organizational citizenship behaviour and to explore the relationship among the components. The population under study includes the employees of the Tehran province municipality. Due to the unlimited statistical population, the sample size was determined using Cochran's formula as 384 people with a simple random sampling method. The data collection instrument was a researcher-made questionnaire whose content validity was confirmed by experts using the Delphi technique, construct validity was established with confirmatory factor analysis in Smart PLS software, and reliability was ensured using Cronbach's alpha coefficient in SPSS software and composite reliability. To analyze the data, the Kolmogorov-Smirnov test was used to test the normality of the data, the Friedman test was used to prioritize the components and indicators, and the Structural equation modelling test was used to analyze the path and validate the model in smart PLS software. The results indicated that the existing organizational skills and resources can influence the organization's competitive environment. Furthermore, the current competitive environment can provide the context for employees' participation and cooperation and the organization's citizenship behaviour. In effect, it can affect the performance of work teams.

Keywords: management, team interactions, organizational team performance, non-economic motives, organizational citizenship behavior
2020 MSC: 90B50

1 Introduction

Management cannot solely develop the organization's required behaviours, counting on legal mechanisms. That is why work teams integrate and promote organizational citizenship behaviour with their performance due to team

*Corresponding author
Email addresses: mehdiaghighi58@gmail.com (Mehdi Aghighi), rashid_zo@yahoo.com (Rashid Zolfeghari Zaferani), behmashali@gmail.com (Behzad Mashali)

Received: March 2024 *Accepted:* May 2024

members' interactions and their support for each other [22]. One of the most important characteristics of successful organizations is the tendency to work and revive the spirit of participation and constructive cooperation. Meanwhile, building appropriate and effective teams helps organizations increase their skill and face challenges. That is why new investments are increasingly made in work groups and teams instead of individuals. Many recent studies have declared that commitment to work teams is associated with several favourable organizational outcomes. For example, commitment to work teams has been associated with extra-role behaviours and team and group performance and effectiveness [22]. Team altruism suggests that this type of value expectation involves dual motivations, that is, self-interested altruism with some self-serving motives while still considered moderate and pure altruism. Self-interested altruism refers to the individual's mutual expectation and desire for a long-term value that reduces short-term welfare [6]. Pure altruism refers to people's willingness to focus their efforts to benefit others [21]. This means the degree to which an individual's behaviour reduces its immediate benefits is a key criterion for evaluating organizational citizenship behaviour. The motivations for organizational citizenship behaviour are more or less altruistic because it involves the disposal of personal time and resources and possibly accepting short-term losses for the benefit of others [6]. Organizational citizenship behaviour is an extra-role performance that includes more than employees' official duties, i.e., voluntary and often unrewarded behaviours. A good citizen of an organization has various behaviours, such as accepting and assuming additional responsibilities, following the rules and procedures of the organization, maintaining and developing a positive attitude, and tolerating dissatisfaction and problems in the organization [28]. Organizational citizenship behaviour promises indirect and uncertain future value or rewards [13]. Therefore, the development of human resources in the framework of team building, extra-role behaviours, and professional ethics, and set forth., is one of the most important strategic goals of the leading organizations of the current era, which is communicated to the senior management of such organizations in order to improve the attitude, knowledge, skills, experience, quality, excellence, and performance of the organization's capital, even changing the individual characteristics of the employees [22].

On the other hand, few people are not aware of the necessity and importance of teamwork today, and everyone attempts to build teams from the groups they are members of to benefit from its advantages. In this regard, to optimally use the benefits of teamwork, the topic of team performance has been widely considered and investigated globally. However, the approach studied in the present research is the non-economic motives of organizational citizenship behavior and its role in team performance, which has received less attention [31]. Organizational citizenship behaviors, as voluntary and conscious behaviours of employees, significantly influence individual and organizational performance and put employees in a situation to voluntarily perform tasks beyond their role and job description [27]. Cooperation in the positive and constructive interaction of work team members with each other causes the emergence and spread of ethical norms and values in the work environment. Therefore, due to the performance of work teams, the principles of professional ethics are promoted and spread in work environments [24]. On the other hand, organizational behaviour has always been one of the constant concerns of societies, and the concern about the ups and downs of organizational behaviour and the level of adherence to behavioural and ethical principles and its unfortunate results has resulted in a huge amount of different research about this fundamental human component. In addition, most of the cities' administrative activities are under the municipalities' responsibility. Municipalities with the organizational activity of their employees in all urban areas, such as green space, traffic, and transportation, and creating cultural, sports, recreational, and educational centers always conjugate the citizens and are in close contact with them. The requirement for the desired cooperative performance of employees is to make non-economic incentives for organizational citizenship behaviour in municipal employees. Despite the long antecedent of organizational activities such as municipalities in Iran, as it should and maybe, this organization has not effectively met the citizens' needs, especially in big cities like Tehran. Issues such as urban traffic, noise pollution, air and water pollution, excessive migration to big cities, ever-increasing unemployment, and so on are due to wrong policies caused by organizations such as municipalities.

Since Tehran Municipality is one of the most important organizations in the administration of the country's capital, in the present research, the researcher attempts to address the issues surrounding improving organizational team performance levels in the organization of municipalities. Accordingly, the current research aims to address the main research question, "What is the model of improving organizational team performance with the approach of non-economic motives of organizational citizenship behaviour in the municipalities of Tehran province?"

2 Literature review

Today's world is the world of building work teams. If teamwork does not succeed in any institution or organization, the organization loses one of the important keys to success. Focusing on organizational citizenship behavior and work ethics requires a team spirit [20]. The fact is that what a team can do cannot be done by one person alone Because in cooperation, the forces of people are multiplied, and the result of the work is more than the result of the power of

people individually. Accordingly, teamwork is one of the necessities and priorities of every system and organization [5].

Organizations require a major leap in increasing their efficiency and effectiveness, so they should provide the ground so that their employees and managers use all their experiences, abilities, and capacities to enhance the organizational goals [23]. Therefore, organizations need to pay attention to their human resources; building work teams is one of the issues that can influence the effectiveness of human resources and is essential [16]. In the last two decades, the issue of teams and work teams has been significantly considered globally. In today's evolving market, considering the global economic competition and continuous technological changes in organizations, the need to mobilize all employees' power, knowledge, skills, and expertise is felt more than before. On the other hand, nowadays, considering the intense competition, the speed of the volume of information, and the challenges facing today's organizations, it seems necessary to have team performance evaluation models to determine the success of organizations and to plan based on the strengths and weaknesses of organizations. Despite the benefits and results obtained from teamwork, neglecting the factors and components of team building causes many problems that do not increase performance and lead to major failures in some cases [16]. Human resources, referred to as human capital today, is one of the most important assets of any organization, whose quality can play a significant role in the growth and excellence of the organization. Due to the complexities of human resources, various issues in behavioral dimensions are emerging, one of which is the issue of organizational citizenship behavior in recent years. In general, citizenship behavior is a kind of valuable and useful behavior that people show voluntarily and willingly. Thus, it seems very important and necessary to study and investigate the behavior of people in the organization, known as organizational citizenship behavior [26]. Organizational citizenship behavior, as one of the new concepts of organizational behavior management, which emphasizes the extra-role behaviors of employees and managers, has a decisive role in the organizational process and transforming the traditional environment into a dynamic environment. Therefore, if successful and unsuccessful organizations take decisive steps to create organizational citizenship behavior, organizational efficiency and productivity will potentially increase, improving their performance. Today, the importance of investigating organizational citizenship behavior is increasingly felt; it is not limited to observing social behavior; rather, its effects directly influence organizational achievements [4].

Organizational citizenship behavior, first coined by Deichmann and Stam [11], describes actions that are typically outside of employee job descriptions, are not rewarded, and, thus, are done according to the employee's wishes. Considering the countless benefits it brings to employees and the organization, some studies have been conducted to determine the elements that might be effective in proving organizational citizenship behavior [8]. Previous studies have identified several antecedents of organizational citizenship behavior: attitudinal, mood, leadership, and work environment factors [9]. Nevertheless, researchers attempt to investigate different aspects. When the agreement is reached, and all contracts are signed in an intra-organizational framework, the effectiveness of managing a large project essentially depends on a combination of the shared altruistic behavior of the parties involved and the extent of their positive voluntary efforts that they have become prepared to assign to the project [12]. These behaviors and efforts have been described as informal collaboration, involving ongoing participation in close collaboration, maintaining a harmonious relationship involving professional networks, spontaneous investment of additional time and resources, and a willingness to volunteer hard work to achieve a successful outcome. This type of positive behavior is citizenship behavior in large projects (MCB) [3]. Regarding philanthropy, citizenship behavior in large projects includes actions that do not happen by themselves and require several different sponsors' investment of time and resources [7]. Therefore, this type of behavior requires intrinsic motivational stimuli that provide potential implicit value. With such internal initiative, the participants do their best to deliver the project successfully and achieve beyond their expected performance, even if their contracts lack economic incentives [10]. At that time, research on organizational citizenship behavior showed significant rapid growth in researchers' interest in studying it; its use is in different disciplines and, as a result, in different types of organizations [14].

Investigating this citizenship behavior is significant in its positive effect on individual and organizational results. Therefore, it is unsurprising that researchers aim to investigate the antecedents of organizational citizenship behavior, including mediating and moderating variables that influence the relationship between antecedents and organizational citizenship behavior. Organizational citizenship behavior can be investigated at the individual level, which usually exists at the team level, which goes beyond the sum of the individual level of organizational citizenship behavior [15]. Organizational citizenship behaviors are voluntary activities that are more critical and are also very important for the survival and success of the organization [17]. Substantially, citizenship behavior in large projects is a philanthropic behavior that benefits others or organizational well-being and is suitable for taking philanthropic actions that positively influence innumerable organizations [6]. Accordingly, citizenship behavior in large projects can be used to depict philanthropy in large projects [13].

Thus, the importance and significance of conducting such research is highlighted from this point of view: Focusing on the components of the organizational team performance improvement model with the approach of non-economic motives of organizational citizenship behavior in the municipality. As noted, the current study seeks a scientific answer to this main question: What is the model of improving organizational team performance with the approach of non-economic motives of organizational citizenship behavior in the municipality? The answer will be used to make suggestions to improve organizational team performance and organizational citizenship behavior using non-economic incentives. As no study has been conducted on presenting a model of improving organizational team performance with the approach of non-economic motives of organizational citizenship behavior, the significance of the current research is highlighted. Thus, it is significant to examine this question: How can the model of improving organizational team performance with the approach of non-economic motives of organizational citizenship behavior in the municipality be maintained comprehensively?

Abdolmaleki and Ghanbari [2], in an article entitled "The role of team leadership in team performance mediated by team learning (case study: teams of secondary school teachers in Kurdistan Province)," showed that team leadership and team learning have a positive effect on teachers' team performance at the 0.05 level, using correlation method and covariance-based structural equation modeling approach. Team leadership through team learning positively affects teachers' team performance at the level of 0.05. Team leadership and team learning can also explain 38% of teachers' team performance variance. Makondi et al. [22], in an article entitled "Analysis of the relationship between work team performance and organizational citizenship behavior: the mediating role of professional ethics," showed that there is a positive and significant relationship between work team performance and organizational citizenship behavior (with a path coefficient of 0.32). Their statistical population consisted of 600 employees of government departments and organizations in Ilam City, of which 234 people were selected as the sample size using a stratified random method.

Meanwhile, professional ethics mediates in the above relationship (with a path coefficient 0.44). Abbassinia et al. [1], in an article entitled "Social network analysis approach to analysis of emergency management team performance" showed with analytical and descriptive methods that only 10% of the total possible communication between the members of the emergency situation management team has been established, which indicates the high dissociation between the members and the low coherence of the network. This can lead to a lack of coordination and sometimes chaos in emergencies and, in effect, reduce the performance of teams. Tajpour and Razavi [30], in another article entitled "The effect of team performance on the internationalization of Digital Startups: The mediating role of entrepreneurship", using the structural equation modeling method, showed that emotional commitment, creating an innovative environment and sharing knowledge through the mediating role of entrepreneurship have a positive and significant effect on the internationalization of digital startups. Employee team performance plays an important role in the survival and success of companies in the international sector. The knowledge companies acquire from other companies, especially during internationalization, can strengthen their competition in the global market. Team performance as the primary factor of learning and innovation facilitates trust among company employees.

Nyfoudi et al. [25], in another article entitled "Managerial coaching skill and team performance: How does the relationship work and under what conditions?", using correlation and modeling methods, showed that knowledge and skills at the team level mediate the relationship between managerial coaching skills and team performance when the learning goal orientation of managers is high and not low. This study contributes to the human resources literature by highlighting the importance of managers in delegated developmental interventions and provides practical implications for the conscious use of managerial coaching in the workplace. Sokersna et al. [29], in another research entitled "Developing organizational citizenship behavior on public organizational performance", with the structural equation modeling method, created behavior and perception models of public servants about organizational performance through their voluntary participation in the performance of their organization. The results showed that organizational citizenship behavior can mediate the relationship between the mental structures of organizational performance and employees' perceptions of their leaders and their motivation to serve in the public sector.

3 Method

The present research method is applied objectively in the quantitative part and descriptively, like the survey. As interviews with experts conducted the research, it is described as a type of survey research. In the first step, desk research was carried out using the library method (books, articles, and reliable internet sites) to review the theoretical foundations, the subject literature, and the background of the research. Afterward, in the quantitative part, which is executive, operational, and field, to investigate the relationships between the components and validate the presented model, the required data is collected by a researcher-made questionnaire using the field method. The questionnaire is distributed in the research field.

The quantitative research method in the present research is descriptive-analytical. In the quantitative part, using path analysis and confirmatory factor analysis in the descriptive-analytical method, the model will be described in the research population, and the relationship between the concepts and the components of the dimensions of the proposed model will be discussed. To this end, structural equation modeling has used confirmatory factor analysis and path analysis techniques. The statistical research population encompasses all employees of the municipality of Tehran province, whose personnel are over 100 thousand people. A simple random sampling method was used to select the research sample. Morgan's table will be used to estimate the appropriate sample size. Since the statistical population is 100,000, the sample size was considered to be 384 people using the Morgan Karjesi table.

In the quantitative research method, the data collection method was a field study, and the instrument was a questionnaire. A researcher-made questionnaire was used to carry out the study. To this end, using the results of the qualitative method, the components were identified, and then the questionnaire was designed based on the indicators mentioned by the experts. Cronbach's alpha is calculated as the average inter-item correlation that measures a concept. The closer Cronbach's alpha is to one, the higher the internal consistency reliability. The acceptable value for alpha coefficient and composite reliability is 0.7, which indicates the reliability of the questionnaire.

According to the collected data, the researcher then analyzes and examines the questions and the research objectives and intends to find answers to the research questions. Structural equation modeling will be used to validate the model. There are various methods to implement structural equation modeling. One of the latest approaches in structural equation modeling, the partial least squares method, is used in the current study. The Smart-PLS 2 will be used in the data analysis part of the present study.

Structural equation modeling is classified into confirmatory factor analysis and path analysis. In the confirmatory factor analysis, the measurement of the relationship between the research questions and the components will be investigated. In the path or structural analysis, the relationship of the components will be examined, and the research model will be validated. It should be noted that this approach does not depend on the normality of the population, and the researcher can easily design the model without concern about the distribution of the population. To design the structural model of the current research, this approach is used to estimate the factor loadings to evaluate the model and the validity of the constructs.

Structural Equation Modeling (SEM) technique is used to analyze the data in the present research. Structural equation modeling is one of the statistical methods that provides a tool to investigate the relationship among several variables in a model. A Structural Equation Modeling (SEM) was used for data analysis since it tests the simultaneous relationships among variables. The Smart PLS software has been used in this section according to the statistical presumptions such as the normality of the data, sample size, and set forth. In the following, the test and analysis methods used in the research are given with the corresponding formula. The following formula shows the access determination method using the adjacency matrix:

Equation (3.1): Determination of the final access matrix

$$A + I \qquad M = (A + I)^n \tag{3.1}$$

Matrix A is the initial access matrix, the identity matrix, and the final access matrix. The operation of exponentiation of the matrix is done according to Boolean rules (Relation (3.2)).

$$1 \times 1 = 1; \quad 1 + 1 = 1 \tag{3.2}$$

3.1 Partial least squares sample size

Partial least squares can also be used when the sample is very small. However, it only can be used for statistical power analysis. Monte Carlo showed that this approach can be used for a sample size of less than 50. Using 27 variables, H. Vold analyzed two latent constructs and data sets of 10 samples. However, due to the large-scale sustainability problem, this model still has some limitations.

3.2 Formation of structural self-interaction matrix (SSIM)

In this step, the experts consider the criteria in pairs and respond to the pairwise comparisons based on the following. In each comparison of two criteria, the letters V, A, X, and O are used according to the following definitions.

V represents that the factor of row i causes the factor of column j to be realized, A represents that the factor of column j causes the factor of row i to be realized, X represents that both row and column factors make each other happen (factors i and j have a two-way relationship), and O represents that there is no relationship between row and column factors.

	Criterion 1	Criterion 2	Criterion 3	Criterion 4
Criterion 1		V	V	O
Criterion 2			X	A
Criterion 3				O
Criterion 4				

3.3 Adapting the achievement matrix (RM)

In the initial achievement matrix, the following rule should be checked: if $i, j = 1,\ j, k = 1 \to i, k = 1$. That is, if criterion A is related to criterion B and criterion B is also related to criterion C, then criterion A must also be related to C.

3.4 Determining the level of variables

In this step, we calculate each criterion's input (prerequisite) and output (achievement) criteria and then determine the common factors. In this step, the criterion in which the output set (achievement) is equal to the joint set has the highest ISM level. After identifying this variable or variables, their row and column are removed from the table, and repeat the operation on other criteria.

3.5 Drawing interaction network

In this step, drawing the interaction network is created according to the criteria levels in ISM and the relationships between them. The first level is selected as the most impressionable, and the last level is selected as the most influential.

3.6 Model fit

The GOF overall model fit index is calculated as the geometric mean of R^2 and the average communality:

$$GOF = \sqrt{\overline{\text{Communality}} \times \overline{R^2}} \tag{3.3}$$

this formula describes the explained variance index R2 and the measurement model's quality (communality) quality in the following table. It should be noted that the explained variance index is evaluated in terms of the endogenous constructs of the model and shows how much the independent variable could predict or explain the dependent variable.

3.7 Cochran's formula

This formula is used to estimate the sample size in qualitative variables. Cochran's formula and its components are given below.

$$n = \frac{Nt^2pq}{Nd^2 + t^2pq} \tag{3.4}$$

N is the total number of the statistical population, t is the confidence coefficient. If the significance level of the test is equal to 0.5, the value of this coefficient is equal to 1.96, p is the probability of an attribute in the population (proportion of the population with a certain attribute), q is the probability of absence of an attribute in the population (proportion of population without a certain attribute) ($q = 1 - p$), and d is the sampling accuracy (the difference between the actual proportion of the attribute in the population with the researcher's estimate for the presence of that attribute in the population)

$$n = \frac{Nt^2S^2}{Nd^2 + t^2S^2}. \tag{3.5}$$

3.8 Kolmogorov-Smirnov test in SPSS

Like the Mann-Whitney test, run the following command to use the Kolmogorov-Smirnov test: Analyze → Non-parametric Tests → Leagcy Dialogs→ 1-Sample K-S...

$$D = \max_{1 \le i \le N} \left(F(Y_i) - \frac{i-1}{N}, \frac{i}{N} - F(Y_i) \right). \tag{3.6}$$

The Kolmogorov-Smirnov (K-S) test, named after the Russian mathematicians Andrey Kolmogorov and Nikolai Smirnov, is a statistical method that determines whether a sample is from a particular population distribution. D often shows The calculated test statistic and determines whether the null hypothesis is accepted or rejected. If D is greater than the critical value of alpha, the null hypothesis is rejected. The null hypothesis is accepted if D is less than the critical value.

3.9 Fornell-Larcker validity

To evaluate the discriminant validity of the latent constructs, more variance should be shared with their predictors than other constructs. This index is calculated using the square root of average variance extracted (AVE). Another indicator of discriminant validity evaluation is cross-loading by the Fornell and Larcker method. Each item of a construct must have a higher factor loading on its related construct than other constructs. The results of discriminant validity can be seen in the table.

Variables	Positive styles	Negative styles	Moral characters	Social skills of children
Positive styles	0.84			
Negative styles	0.15	0.90		
Moral characters	0.08	-0.21	0.67	
Social skills of children	0.40	-0.18	0.32	0.80

According to the above table, the convergent validity square of each construct is greater than the correlation values among other constructs. Thus, the research model is confirmed in terms of divergent validity according to Fornell and Larcker's method.

4 Results

4.1 Descriptive statistics of the research variables

In this part of the present research, numerical statistics (minimum, maximum, mean, standard deviation, skewness, and kurtosis) for the research variables are presented in Table 1: Individual skills, organizational skills, human resources, non-human resources, organizational competitive environment, work team performance, participation and cooperation, organizational citizenship behavior, skills and expertise of organizational resources.

Table 1: Descriptive statistics of the research variables

	Individual skills	organizational skills	human resources	non-human resources	organizational competitive environment	performance of work teams	participation and cooperation	organizational citizenship behavior	skills and expertise	organizational resources
Mean	3.131	3.052	2.955	2.958	3.119	3.001	3.126	2.963	3.091	2.956
mean error	0.044	0.048	0.048	0.045	0.047	0.049	0.041	0.045	0.043	0.044
Median	3.200	3.200	3.00	3.00	3.200	3.00	3.125	3.00	3.100	3.00
Mode	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SD	0.822	0.941	0.944	0.887	0.932	0.963	0.818	0.884	0.848	0.869
Variance	0.761	0.887	0.892	0.788	0.870	0.929	0.669	0.782	0.720	0.756
skewness	-0.524	-0.565	0.087	-0.135	-0.204	-0.070	-0.352	-0.104	-0.618	-0.129
kurtosis	-0.013	-0.403	-0.830	-0.392	-0.464	-0.878	-0.232	-0.523	-0.091	-0.638
Domain	3.80	3.60	3.83	3.75	3.90	3.88	3.63	3.75	3.60	3.54
min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
max	4.80	4.60	4.83	4.75	4.90	4.88	4.63	4.75	4.60	4.54
Total	1202.40	1172.20	1134.83	1136.00	1197.90	1152.60	1200.46	1183.12	1178.30	1135.42

4.2 Kolmogorov-Smirnov test: Testing the normality of the research variables

To test the research hypotheses, firstly, the normality of the variables is checked. Thus, this presumption is firstly tested for the research variables.

Table 2: Kolmogorov-Smirnov test for normality of research variables

	Individual skills	organizational skills	human resources	non-human resources	organizational competitive environment	performance of work teams	participation and cooperation	organizational citizenship behavior	skills and expertise	organizational resources
statistic	0.133	0.126	0.084	0.087	0.058	0.073	0.067	0.055	0.121	0.062
Sig.	0.000	0.000	0.000	0.000	0.003	0.000	0.000	0.007	0.000	0.001

In the above table, since the significance level of the test is less than 0.05, it is concluded that the data distribution is significantly different from the normal distribution, and therefore, it is not normal. Thus, non-parametric tests should be used to test the hypotheses. It should be noted that because SmartPLS software is not sensitive to data distribution and analyzes both normal and non-normal data, it can be used to test the hypotheses.

4.3 Structural equation modeling and Smart PLS software

In order to investigate the effects and role of one or more variables on another variable, regression analysis is always used. On the other hand, in regression analysis, a variable cannot be both mediator and dependent simultaneously. Path analysis is used to solve this problem. In path analysis, several dependent variables can be analyzed simultaneously, and a variable can simultaneously play two mediating and dependent roles in the model, which is done in structural equation modeling. In the current study, path analysis and structural equations were used with the help of Smart PLS software to fit the research conceptual model and test the research hypotheses.

4.4 Examining the external research model

The first criterion examined in reflective measurement models is the reliability of internal consistency. The traditional criterion for its control is Cronbach's alpha, which calculates an estimate of reliability based on the internal correlation of the indicators. If Cronbach's alpha is more than 0.70, the internal consistency and unidimensionality of the block are confirmed. In addition to Cronbach's alpha, composite or combined reliability is used in PLS path models to test internal consistency reliability. If the value of this index, known as Dillon-Goldstein's P, is more than 0.70, the composite reliability of the model is also confirmed. The results and output report of PLS software for this composite reliability index are given in Table 3.

Table 3: Composite reliability and Cronbach's alpha

Research variables	**Composite reliability**	**Cronbach's alpha**
work teams	0.9012	0.8732
organizational citizenship behavior	0.9148	0.8981
organizational competitive environment	0.9166	0.8981
participation and cooperation	0.8716	0.8310
human resources	0.8737	0.8192
organizational resources	0.8980	0.8710
non-human resources	0.8253	0.7203
skills and expertise	0.9057	0.8841
organizational skills	0.8665	0.8064
Individual skills	0.8620	0.7998

As can be seen, the values obtained for Cronbach's alpha and composite reliability are more than 0.70, indicating the reliability of the research variables. Therefore, the measurement models have good reliability.

4.5 Assessing the validity of measurement models

1. **Convergent validity**
   Convergent validity is the first validity assessed to confirm the validity of measurement models, which is convergent validity. Convergent validity means that the set of indicators explains the primary construct. Fornell and Larcker [19] suggest using average variance extracted as a criterion for convergent validity. The minimum average variance extracted equal to 0.5 indicates sufficient convergent validity. In other words, a latent variable can explain, on average, more than half of the dispersion of its indicators.

Table 4: Calculation results of average variance index

Factors	**Average variance extracted**
work teams	0.5372
organizational citizenship behavior	0.6741
organizational competitive environment	0.5265
participation and cooperation	0.6611
human resources	0.5805
organizational resources	0.6971
non-human resources	0.5438
skills and expertise	0.6910
organizational skills	0.5661
Individual skills	0.5588

   As can be seen in the table above, the AVE value for all variables is higher than 0.5. Therefore, the convergent validity of the measurement models is good.
2. Fornell and Larcker validity. In the table below, each construct's root value of AVE is shown with correlation values of other constructs.
   In the above table, the root value of convergent validity is placed in the matrix's main diagonal, and the correlation between the factors is located in the rows and columns, which are mostly smaller than the main diagonal. Therefore, in the present study, the model's constructs (latent variables) interact favorably with their indicators rather than with other constructs; in other words, the divergent validity of the model is appropriate in terms of Fornell validity.
3. **Model fit**. The GOF overall model fit index is calculated as the geometric mean of R2 and the average communality:

$$GOF = \sqrt{\overline{Communality} \times \overline{R^2}}$$

Table 5: Matrix of divergent validity assessment by Fornell and Larcker method

	Performance of work teams	**Organizational citizenship behavior**	**organizational competitive environment**	**participation and cooperation**	**human resources**	**organizational resources**	**non-human resources**	**skills and expertise**	**organizational skills**	**Individual skills**
The performance of work teams	0.728									
Organizational citizenship behavior	0.6418	0.818								
Organizational competitive environment	0.6787	0.6237	0.721							
Partnership and cooperation	0.6761	0.6831	0.6854	0.812						
human resources	0.7000	0.6918	0.6607	0.7266	0.761					
Organizational resources	0.6768	0.7593	0.6424	0.7968	0.6540	0.830				
non-human resources	0.6658	0.7398	0.6425	0.7757	0.6632	0.6216	0.734			
skill and expertise	0.6345	0.6707	0.6595	0.7555	0.6875	0.7630	0.6525	0.830		
Organizational skills	0.6427	0.6975	0.6796	0.7790	0.6952	0.7580	0.7318	0.6407	0.748	
Individual skills	0.6253	0.5471	0.6305	0.6242	0.5846	0.6639	0.6723	0.6307	0.6517	0.741

This formula describes the explained variance index R^2 and the measurement model's quality (communality) quality in the following table. It should be noted that the explained variance index is evaluated in terms of the endogenous constructs of the model and shows how much the independent variable could predict or explain the dependent variable.

Table 6: GOF Validity Index

Row	**Components**	R^2	**The quality of the measurement model**	**GOF**	**Result**
1	The performance of work teams	0.7712	0.5372		
2	Organizational citizenship behavior	0.7999	0.4741		
3	Organizational competitive environment	0.6403	0.5265		
4	Partnership and cooperation	0.7840	0.4611		
5	human resources	0.9102	0.5802	0.647	Model confirmed
6	Organizational resources	exogenous	0.4976		
7	non-human resources	0.8494	0.5438		
8	skill and expertise	exogenous	0.4910		
9	Organizational skills	0.8849	0.5661		
10	Individual skills	0.8662	0.5558		
	Average	0.808	0.519		

$$GOF = \sqrt{\overline{Communality} \times \overline{R^2}} = 0.647$$

The positiveness of the goodness of fit index (GFI), which has a value of 0.647, shows the model's overall fit. As this value is greater than 0.35, it has a good value. Thus, the overall fit of the model is confirmed.

4. **Path analysis using LISREL (linear structural relations)**. Structural equation modeling has also been used to evaluate the overall research model. Due to the significance level of 0.05, the critical value must be greater than 1.96. The parameter value less than this is not considered necessary in the model. In addition, values smaller than 0.05 for the P value indicate a significance difference between the value calculated for the regression weights and the zero value at the 0.95 level. The output of the conceptual model using PLS software is demonstrated in diagrams 1 and 2.
   Standardized coefficients
   Significance coefficients. The diagram below shows the significance level of the path coefficients. A significance value greater than 1.96 and less than -1.96 is acceptable.
   As can be seen in the diagram, the path coefficients have a good level of significance because they are more than 1.96.
5. **The results of the statistical analysis**. The path analysis method has been used to test for causal relationships between the research variables and to confirm the hypotheses. The first path: Skill and expertise on organizational competition environment. As the diagram demonstrates, the path coefficient between the two variables is 0.445 and has a significance level of 4.589, which is desirable because it is more than 1.96. Thus, in this case, the hypothesis is confirmed.
   The second path: Organizational resources on Organizational competition environment. As the diagram shows, the path coefficient is 0.415 with a significance level of 4.271, which is a favorable value because it is more than 1.96. In this case, the hypothesis is confirmed.
   The third path: Organizational competition environment on organizational citizenship behavior. According to the diagram, the path coefficient between the two variables is 0.791 with a significance level of 22.739, which is a favorable value because it is more than 1.96. In this case, the hypothesis is confirmed.
   The fourth path: Organizational competition environment on partnership and cooperation. According to the diagram, the path coefficient between the two variables is 0.891 and has a significance level of 7.041, which is a favorable value because it is more than 1.96. In this case, the hypothesis is confirmed.

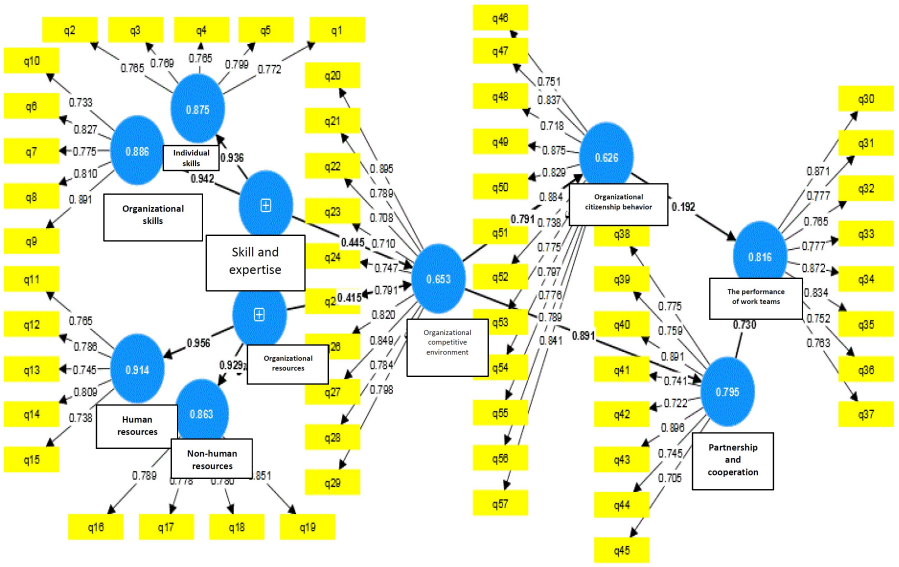

Figure 1: Overall model measurement and hypothesis results in standard mode

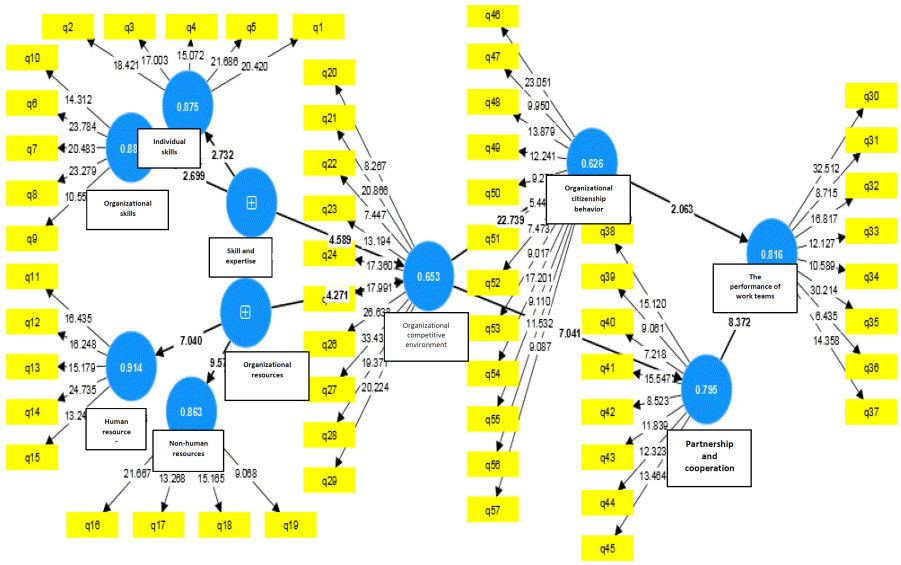

Figure 2: Overall model measurement and hypothesis results in significance mode

The fifth path: Participation and cooperation on the performance of work teams. According to the diagram, the path coefficient between the two variables is 0.730 with a significance level of 8.372, which is a favorable value because it is more than 1.96. In this case, the hypothesis is confirmed.
The sixth path: Organizational citizenship behavior on the performance of work teams
According to the diagram, the path coefficient between the two variables is 0.192 with a significance level of 2.063, which is a favorable value because it is more than 1.96. In this case, the hypothesis is confirmed.

6. Q^2 **Index**. The Stone-Geisser criterion or the Q^2 index determines the predictive power of the model. Blindfolding is a sample reuse technique. This technique provides the possibility to calculate the Stone-Geisser index Q^2. Stone-Geisser index is a measure to evaluate the cross-validity in a partial least squares model. The coefficient of determination index (R^2) determines the accuracy of the prediction, and the (Q^2) index determines the correlation of the prediction. If the value of the Stone-Geisser index is positive, the validity of the prediction is confirmed. Models with an acceptable structural fit should predict indicators related to the endogenous constructs of the model. This means that if, in a model, the relationships between the constructs are defined correctly, the constructs can sufficiently influence each other's indicators, and in this way, the hypotheses can be correctly confirmed. Henseler et al. have determined three values of 0.02, 0.15, and 0.35 as the model's weak,

medium, and predictive solid power regarding endogenous constructs. Suppose the value of Q^2 becomes zero or less than zero in an endogenous construct. In that case, it indicates that the relationships between other constructs of the model and the endogenous construct need to be better explained. The blindfolding technique is used to calculate the value of Q^2 in PLS software:

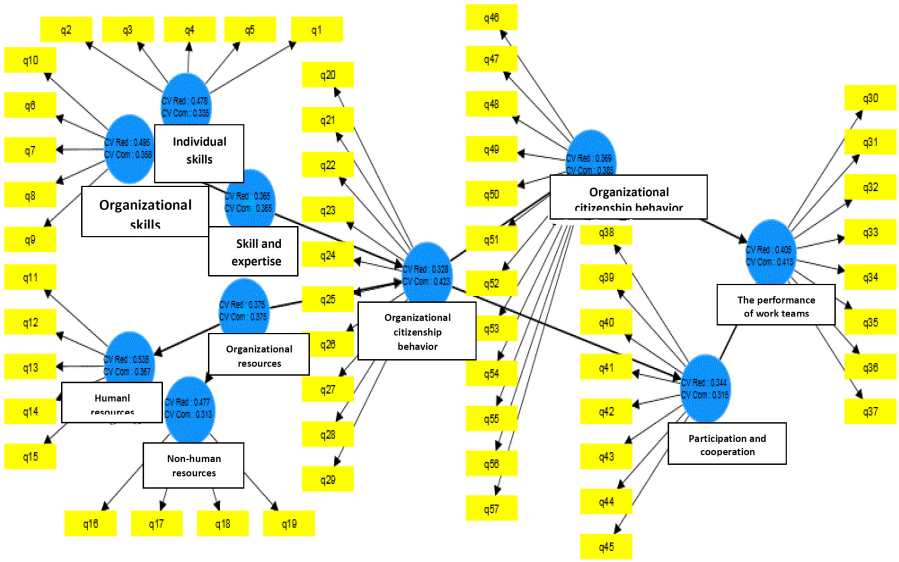

Figure 3: Model quality

Using this technique, two validity indices of cross-validated redundancy (CV-Red) and cross-validated community (CV-Com) are obtained. Positive numbers indicate good model quality. As shown in diagram 3, these values have been obtained positively for all research constructs. The values of the variables are also generally obtained in the range of 0.15 to 0.35. Therefore, the predictive power of the research constructs is estimated as moderate to strong.

7. **The results of the statistical analysis**. In order to investigate the research objectives, the components are prioritized. The Friedman test can prioritize the components, as described in Table 7:

Table 7: Ranking of dimensions

Dimensions	**Rank**
organizational competitive environment	Rank
The performance of work teams	3.80
Participation and cooperation	3.47
Organizational citizenship behavior	4.01
skill and expertise	3.18
Organizational resources	3.51
Chi-Square test statistic	3.03
Sig.	78.69

According to the above table, the significance level value is 0.000, less than 0.05. Therefore, it can be declared that the dimensions have significant differences. In addition, the results of this test indicate that the dimension of participation and cooperation, with a rank of 4.01, has the highest rank, and the dimension of organizational resources, with a rank of 3.03, has the lowest rank. These components are as follows, in order of priority: 1- participation and cooperation, 2- organizational competitive environment, 3- skills and expertise, 4- performance of work teams, 5- organizational citizenship behaviour, and 6- organizational resources.

5 Discussion and conclusion

The present research aimed to provide a model to improve organizational team performance with the approach of non-economic motives of organizational citizenship behaviour in the municipalities of Tehran province. The sketch of the research is addressed in the first step, which includes the statement of the problem and mental concern of the researcher, the significance of conducting the research, the objectives and questions of the research, as well as the

conceptual and operational definitions of the research that have been presented. To elaborate on the significance of the study, it was stated that the organizational citizenship behaviour of employees at the workplace has significant consequences, especially in the fields of increasing effectiveness in the organization, increasing employee productivity, improving organizational coordination and communication, increasing employee satisfaction, improving employee loyalty to the organization, and increasing work commitment, improvement and stability of the organization's performance, increasing customer satisfaction from the organization's services, and increasing the organization's image.

The importance of these issues in organizations is common knowledge, and not addressing these issues in organizations can have destructive effects. The present research identified and approved six components, four sub-components, and 57 indicators by experts in the provision of a model for improving organizational team performance with the approach of non-economic motives of organizational citizenship behaviour in the municipalities of Tehran province. Accordingly, existing organizational skills and resources can influence the organization's competitive environment as influential factors. The existing competitive environment can predispose the participation and cooperation of employees and citizenship behaviour in the organization and, in effect, influence the performance of work teams. The results also revealed that participation and cooperation play a significant role in promoting and improving the performance of the work teams of employees in the organization. Regarding the indicators obtained in the current research, the following indicators were able to gain the most weight: The individual ability to influence decision-making, the intention and behaviour of employees, the organization's skill in creating innovations, the motivated human resources, the primary resources such as infrastructure and equipment, the financial resources of projects, the knowledge and information resources of the organization, the attention and importance to extra-professional behaviours, the trust between team members and the leader, the formation of effective work teams, the appropriate work interactions, the chivalry, the altruism, the optional and often unrewarded behaviours, and extra-role behaviours of employees and managers.

To explain the results, the following statements can be declared. Abdolmaleki and Ghanbari [2] showed that the Pearson correlation coefficient between work engagement and organizational citizenship behaviour is 0.493, indicating a positive and significant relationship between them. In other words, organizational citizenship behaviour also increases if work engagement increases. Abbassinia et al. [1] also indicated in research the dimensions of citizenship behaviour with the most significant test effect: conscientiousness, altruism, chivalry, civic virtue, respect, and honour. Among these dimensions, conscientiousness has the most significant impact on municipal employees, and respect has the most negligible impact on the citizenship behaviour of Khorram Abad municipal employees. Tajpour and Razavi [30] showed that among the dimensions of employees' relationships, only the dimension of relationships with managers is significantly related to self-sacrifice and civic virtue of organizational citizenship behaviour dimensions. Sukresna et al. [29] showed that organizational citizenship behaviour could mediate the relationship between the subjective structures of organizational performance and employees' perceptions of their leaders and their motivation to do service in the public sector. Nyfoudi et al. [25] conducted an investigation that found that work values positively affect organizational citizenship behaviour and organizational performance of family hotels. Organizational citizenship behaviour mediates the relationship between work values and organizational performance. Their study also strongly supports group differences between family and non-family firms for work values and the mediating effect of organizational citizenship behaviour on the relationship between work values and performance. In terms of investigating the relationship between organizational citizenship behaviour and the organizational environment, these studies are in line with the present research.

Makondi et al. [22] showed that the team composition index significantly influences team performance in the Faculty of Management and Economics. They also showed that the active approach will impact team performance most. Abbassinia et al. [1] showed in their research that there is a significant relationship between servant leadership and team performance. There is a significant relationship between servant leadership and organizational citizenship behaviour; There is an important relationship between organizational citizenship behaviour and team performance; Team conflict mediates the relationship between conflict, task conflict, team performance, and organizational citizenship behaviour. These studies are consistent with the current research in terms of investigating the relationship between team performance and organizational citizenship behaviour. Faryabi et al. [18] unravelled that there is a positive and significant relationship between the flexibility of human resources and customer-oriented organizational citizenship behaviour. This research is in agreement with the current research in terms of human resources.

Nyfoudi et al. [25] demonstrated that the pursuit of social value and self-interested motives, including assertive development and political attractiveness, act as significant non-economic drivers of citizenship behaviour of large organizational projects. The self-interested motive in the emergence of citizenship behaviour of large organizational projects is generally less significant than the pursuit of social value. Government connections of large projects mediate the relationship between the self-interested motive and the citizenship behaviour of large organizational projects. In

large projects, when the government connections of the individual participating entity are as strong as the connections of the large projects themselves, the interaction of citizenship behaviour of large projects is actually done with the pursuit of corporate development and political attractiveness, even in cases where the main driver is the pursuit of social value. This research is under the current research in terms of the relationship between participation and citizenship behaviour. Tajpour and Razavi [30] indicated that team tenure, additive team perception, collective team tenure, and team tenure dispersion are positively related to team performance. They also showed that additive team tenure is a relatively more important predictor of team performance than collective team tenure or team tenure dispersion. Team cognition, motivational and emotional states, and behavioural processes mediate the relationships between additive team tenure, collective teamwork, and team tenure dispersion with team performance. Sukresna et al. [29] showed in their research that indicators of team maturity, team size, task division method, and level of hierarchy in the team evaluate team performance. They also declared that the higher the hierarchy in the team, the lower the team's performance. This research aligns with the current research examining the relationships between work teams and team performance.

References

[1] M. Abbassinia, O. Kalatpour, M. Motamedzade, A. Soltanian, I. Mohammadfam, M. Ganjipour, and L. Khodabandehloo, *Social network analysis approach to analysis of emergency management team performance*, Iran Occup. Health **18** (2021), no. 1, 89–101.

[2] J. Abdolmaleki and S. Ghanbari, *The role of team leadership in team performance mediated by team learning (case study: teams of secondary school teachers in Kurdistan Province)*, J. Manag. Educ. Organ. **11** (2022), no. 1, 69–98. [In Persian]

[3] C. Barroso Castro, E.M. Armario, and D.M. Ruiz, *The influence of employee organizational citizenship behavior on customer loyalty*, Int. J. Serv. Ind. Manag. **15** (2004), no. 1, 27–53.

[4] R. Bashardoust Nalkiyashari and H. Bahmani, *Organizational citizenship behavior, its consequences and events in the organization*, Sixth Nat. Conf. Mod. Res. Field Human. Econ. Account. Iran, Tehran, Vol. 6, 2019. [In Persian]

[5] J. Corbin and A. Strauss, *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, Sage Publications, 2014.

[6] G. Covella, V. McCarthy, B. Kaifi, and D. Cocoran, *Leadership's role in employee retention*, Bus. Manag. Dyn. **7** (2017), no. 5, 1–15.

[7] B. Cristina-Corina, *Some determinative factors for teachers' job motivation*, Proc.-Soc. Behav. Sci. **47** (2012), 1638–1642.

[8] R.S. Dalal, M. Baysinger, B.J. Brummel, and J.M. LeBreton, *The relative importance of employee engagement, other job attitudes, and trait affect as predictors of job performance*, J. Appl. Soc. Psycho. **42** (2012), E295–E325.

[9] S. Dawkins, A. Martin, J. Scott, and K. Sanderson, *Building on the positives: A psychometric review and critical analysis of the construct of psychological capital*, J. Occup. Organ. Psycho. **86** (2013), no. 3, 348–370.

[10] C.K. De Dreu, *Rational self-interest and other orientation in organizational behavior: A critical appraisal and extension of Meglino and Korsgaard (2004)*, J. Appl. Psycho. **91** (2006), no. 6, 1245–1252.

[11] D. Deichmann and D. Stam, *Leveraging transformational and transactional leadership to cultivate the generation of organization-focused ideas*, Leadership Quart. **26** (2015), no. 2, 204–219.

[12] D.S. DeRue, J. Hollenbeck, D.A.N. Ilgen, and D. Feltz, *Efficacy dispersion in teams: Moving beyond agreement and aggregation*, Person. Psycho. **63** (2010), no. 1, 1–40.

[13] M.F. Dipaola and W.K. Hoy, *School characteristics that foster organizational citizenship behavior*, J. School Leadership **15** (2020), no. 4, 387–406.

[14] M.K. Duffy, D.C. Ganster, J.D. Shaw, J.L. Johnson, and M. Pagon, *The social context of undermining behavior at work*, Organ. Behav. Human Decis. Proces. **101** (2006), no. 1, 105–126.

[15] M.G. Ehrhart and S.E. Naumann, *Organizational citizenship behavior in work groups: A group norms approach*, J. Appl. Psycho. **89** (2004), no. 6, 960.

[16] F. Eskandar, R. Radfar, and A. Tolouee Ashleghi, *Identification and ranking of effective indicators on team performance in educational enterprises (case study: Islamic Azad University, Science and Research Branch of Tehran, Faculty of Management and Economics)*, J. Urban Econ. Manage. **8** (2020), no. 30, 95–87. [In Persian]

[17] W.R. Evans and W.D. Davis, *High-performance work systems and organizational performance: The mediating role of internal social structure*, J. Manag. **31** (2005), no. 5, 758–775.

[18] M. Faryabi, Y. Jabarzadeh, and S. Kazemi, *An overview of human resource flexibility and customer-oriented organizational citizenship behavior*, First Int. Conf. New Challeng. Solut. Ind. Engin. Manag. Account., Sari, 2019.

[19] C. Fornell and D.F. Larcker, *Evaluating structural equation models with unobservable variables and measurement error*, J. Market. Res. **18** (1981), no. 1, 39–50.

[20] D. Koys, *Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models*, J. Appl. Psycho. **83** (2022), 234–246.

[21] S.G. Liden and D.E. Hu, *What makes teams work: Group effectiveness research from the shop floor to the executive suite*, J. Manag. **23** (2017), no. 3, 239–290.

[22] F. Makondi, V. Chenari, Y. Samadinia, and M. Nasiri, *Analysis of the relationship between work team performance and organizational citizenship behavior: The mediating role of professional ethics*, Ethics Sci. Technol. **16** (2021), no. 3, 81–88.

[23] H. Mansoori and M. Danyali Deh Hoz, *A study of the moderating effect of the productivity of manpower on the relationship between organizational trust and organizational citizenship behavior*, Res. Info. Sci. Public Lib. **10** (2019), no. 39, 483–510. [In Persian]

[24] N. Nasr Isfahani, K.A. Walstrom, and K.K. Bagchi, *Team characteristics moderating effect on software project completion time*, Int. J. Inf. Technol. Syst. Approach **14** (2015), no. 1, 174–191.

[25] M. Nyfoudi, H. Shipton, N. Theodorakopoulos and P. Budhwar, *Managerial coaching skill and team performance: How does the relationship work and under what conditions?*, Human Resource Manag. J. **33** (2023), no. 2, 328–345.

[26] M. Sarfarazi and A. Fatehi, *Investigating the impact of organizational communication on citizenship behavior*, 5th Int. Conf. Manag. Account. Sci., Tehran, Vol. 5, 2018.

[27] M. Shahofaghih and H. Soltanpanah, *The necessity of organizational citizenship behavior in municipalities*, Second Nat. Conf. Fund. Res. Manag. Account., Tehran, 2018.

[28] M.R. Shamsi, *Organizational citizenship behavior*, First Int. Conf. Second Nat. Conf. Manag. Ethics Bus., 2019.

[29] M. Sukresna, R.D. Laksana, and I. Shaferi, *Developing organizational citizenship behavior on public organizational performance*, Quality-Access Succ. **22** (2021), no. 180.

[30] M. Tajpour and S.M. Razavi, *The effect of team performance on the internationalization of Digital Startups: The mediating role of entrepreneurship*, Int. J. Hum. Cap. Urban Manag. **8** (2023), no. 1, 17–30.

[31] S. Yadollahi, *Organizational citizenship behavior*, 5th Int. Conf. Manag. Account. Sci., Tehran, Vol. 5, 2018.