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Method of balanced scorecard for evaluating the performance of the Tehran Municipality's Plans

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Abstract— *Urban planning researchers believe that anything that cannot be measured cannot be urbanized. In today's world, given the speed and volume of information and the challenges facing organizations, the need to have criteria for determining the position and planning based on strengths and weaknesses seems more necessary than ever. All organizations, whether public or private, need to evaluate the performance of their activities and processes for development, growth, and sustainability in today's competitive arena so that they can measure the efficiency and effectiveness of their organization's programs, processes, and human resources. Efficient organizations do not limit themselves to collecting and analyzing data but use this data to improve the organization and fulfill the organization's missions and strategies. In other words, instead of simply evaluating performance, they engage in urbanizing performance. Over time, some organizations realized the limitations of the accounting system in measuring organizational performance and began developing systems that measured the organization's intangible assets that the traditional accounting system was unable to measure. Many organizations use these systems alongside accounting to measure performance, but the combination of these two systems cannot fully measure all dimensions of the organization. Therefore, organizations will need a system that, in addition to measuring all dimensions of the organization, measures the organization's success in achieving its mission and vision. The Kanji scorecard is a new tool to complement the organization's performance measurement indicators. The scorecard establishes a connection between strategic goals and criteria and includes a set of performance evaluation dimensions, including the dimensions of stakeholder value, stakeholder satisfaction, process excellence, and organizational learning that stem from the organization's strategy.*

Keywords— ***Methodology, Balanced Scored Card, Urbanism, Tehran.***

I. INTRODUCTION

One of the important areas of performance of any metropolitan municipality is the field of urban development, because this area requires a lot of resources, including financial, time, information, equipment, and human resources, and can be very effective in achieving the vision and operational goals of urban development plans such as the comprehensive plan (Kahvand et al., 2015). In the case of Tehran, which is both the largest metropolis in the country and the capital of Iran, the importance of addressing the performance of the urban development field is doubly important. Monitoring and evaluating performance are one of the most important activities in the urban development and planning process and a factor in the consistency and durability of the plan and the achievement of the relevant executive goals, as well as the extent to which the quantitative and qualitative goals of that project are achieved (Dizaji et al., 2023).

Performance evaluation is also a measure of the success of urban development and the organization in complying with the rules, regulations, and goals set in the development plan. With the development of urbanization and the growth of urbanism in the last century, urban issues have gained new dimensions day by day. Today, monitoring and guiding urban development and organizing urban areas have become of particular importance. Urbanization in Tehran, with a population of over 8 million people, as the capital and largest metropolis of Iran and the 29th largest metropolis in the world, is not a topic that can be easily overlooked. Since, like in other countries, the municipality is the main custodian of urban development in Tehran, it is very important to pay attention to the way of urban

development and how the Tehran Municipality performs (Dehghan et al., 2024). Proper urban development will not be achieved without planning, implementation, monitoring, evaluation, and review to create a suitable space for improving performance (Akbarzadeh et al., 2016).

In Tehran Municipality, there is relatively no executive plan, coordinated and comprehensive development, and scientific evaluation mechanisms, an evaluation that can be a criterion for classifying urban developments, distributing resources, applying punishments and rewards, and improving and updating methods and structures. Therefore, due to the lack of methods and procedures that ensure the efficiency and effectiveness of the municipal organization, resources are at risk and are at serious risk of damage (GHADARJANI & GHEITARANI, 2013). Since the field of urban planning is one of the strategic areas of the municipality, the areas, or in other words, strategic issues are of considerable importance in recognizing and realizing the goals of the municipality and are a guide to allocating resources and programs of the departments during planning (Zakerhaghighi et al., 2015).

Therefore, this study evaluates the performance of the Deputy of Urban Planning and Architecture of Tehran Municipality. Leading and supervising the implementation of urban planning and architecture rules and regulations, urban planning and architecture plans, and urban development, as well as leading and supervising the preparation and implementation of detailed plans, improvement, and renovation plans (Aydin et al., 2020). Other relevant plans are among the important duties of the Deputy of Urban Planning and Architecture of Tehran Municipality, and the implementation of these plans has a great contribution to realizing the development vision of Tehran. Among the ideals of the vision document is to advance Tehran towards a green and beautiful city, vibrant and lively, with appropriate structure and infrastructure, and finally a city with Islamic-Iranian authenticity and identity in the region by the horizon of 1404.

Such a goal depends on improving the quality of urban planning and architecture by organizing the city's facades, appearance, and landscape along with the principles of safety and beauty, integrating the body of neighborhoods and urban textures, and the physical development of the city by the principles of sustainable development and environmental protection. In this regard, on the one hand, Tehran Municipality is committed to beautifying the city in terms of aesthetics and urban life functions. On the other hand, the necessary tools to achieve this are developing urban patterns and regulations, monitoring the establishment of uses, and citizens' commitment to lawfulness (Aghazadeh, 2017). These issues are within the scope of the duties of the Deputy Mayor of Urban Development. It was previously stated that all organizations, including the Deputy Mayor of Urban Development, need some kind of effective performance evaluation system for development, growth, and sustainability. In the framework, they can measure the efficiency and effectiveness of the organization's programs, processes, and human resources. It is necessary to note that in the country's public systems, in the sections related to the allocation of inputs to the systems. Monitoring and controls are implemented and monitoring and control devices have been designed for this purpose, but after the allocation of facilities, there is no monitoring in the process of converting input into output (Ghadarjani et al., 2013).

II. THEORETICAL

Considering that the annual performance evaluation of the urban development and architecture fields is one of the main missions of the municipality in this field (Sohrabi, 2024). The importance of performance evaluation for this department increases, and considering the existence of a comprehensive and comprehensive evaluation gap in the Urban Development Department, this research will evaluate the performance of the Urban Development Department using one of the performance evaluation models. Looking at the performance evaluation of organizations in today's business, we conclude that it is not possible to have an effective performance evaluation system by focusing solely on financial information (Karimimansoob et al., 2024). Kaplan and Norton, through their research, have seen the problem with evaluation systems as the reliance of these organizations on financial criteria. They realized that many ways to improve performance in the short term, considering financial indicators, can jeopardize the future health of the organization (Norouzian et al., 2024: Dizaji, 2024- a).

Considering these results, these two researchers presented the balanced scorecard method. In addition to identifying the weaknesses and ambiguity of the previous management approach, this approach prescribes a new approach for organizations; A strategy that determines what criteria should be measured in the organization to achieve a balanced financial perspective. The balanced scorecard is a carefully selected set of measurable and quantifiable criteria that are extracted from the organization's strategy (Sarabi et al., 2023). These criteria are provided as a useful tool for managers to deal appropriately with employees, shareholders, and customers in line with the mission, and strategic goals of the organization (Sadigh Sarabi et al., 2024). And know when their specific and desired strategies are not effective. It was stated that the performance of the organization should be

evaluated to identify the extent to which predetermined goals are achieved (Dizaji, 2024- b).

For this purpose, for example, the European Quality Award, Malcolm Baldrige Award, Organization Excellence Model, Comprehensive Quality Urbanization, Balanced Scorecard, and Kanji Business Scorecard models are used. Since the Balanced Scorecard and Kanji Scorecard, methods emphasize the simultaneous progress of different dimensions. Initially, in this research, the Balanced Scorecard method is used to evaluate performance (Norouzian, 2024). Finally, after the proposal was approved and after further study and investigation, the Kanji Scorecard method was selected and used to evaluate the performance of the municipality. The reason for choosing the method is that this method is new and fresh, as well as the Kanji Scorecard method is more comprehensive. In this method, points that are neglected from the perspective of the balanced scorecard are also considered, for example, not only the organization's customers are considered, but all internal and external stakeholders of the organization are considered. In this method, an attempt is made to examine more variables.

As previously stated, given the importance of the urban development field in realizing the vision of Tehran 1404 and the realization of the Tehran master plan on the one hand, and considering the large volume of various resources spent in this deputyship. On the other hand, and the impact that the performance of the Urban Development Deputy has on improving the quality of the city and urban development, there is a greater need for a multidimensional and comprehensive performance evaluation that can determine the efficiency and effectiveness of the deputyship's programs, processes, and human resources.

Therefore, in the present study, the performance evaluation of the Urban Development and Architecture Deputyship of Tehran Municipality will be carried out using the Kanji scorecard method in two regions of Tehran from the perspective of citizens and experts. And solutions will be presented to improve the organization's performance. The two city regions that will be examined are regions 7 and 10. The reason for choosing two regions is to be able to evaluate and compare the municipality's performance from all four dimensions of the Kanji scorecard, namely stakeholder satisfaction, process excellence, stakeholder value, and organizational learning, in two regions of the city that are different from each other in terms of physical, economic, social, and cultural location.

Definition of Performance Evaluation. There are several definitions related to performance evaluation, some of which are mentioned here:

Performance evaluation is the evaluation of an individual's current or past performance according to the criteria specified for him. Performance evaluation is the process of quantifying the efficiency and effectiveness of operations (Sarabi et al., 2023). The process of measuring and evaluating performance in executive agencies within the framework of principles and scientific concepts of urban planning to achieve organizational goals and tasks in the form of executive programs. Performance evaluation is the measurement of performance by comparing the current situation with the desired situation based on predetermined indicators that themselves have certain characteristics. Performance evaluation in the organizational dimension is usually synonymous with the effectiveness of activities (Gheitarany et al., 2013).

Effectiveness refers to the degree of achievement of goals and programs with the characteristic of the efficiency of activities and operations. In general, the performance evaluation system is the process of measuring and comparing the degree and manner of achieving the desired situation with certain criteria and attitudes in a certain scope and area covered by certain indicators and in a certain period to review, correct, and continuously improve it (Aghazadeh et al., 2019). Performance appraisal in executive agencies means evaluating and measuring the efficiency, economy, and effectiveness of all methods and decisions used by the relevant urban planning in the stages of task implementation (Naghibi Iravani et al., 2024). The evaluation components should be planned based on the goals, objectives, programs, job descriptions, and activities of each agency (Aydin et al., 2020).

Today's Philosophy of Performance Appraisal. In the past, managers conducted performance appraisals only to control the work of employees, while today the guiding and guiding aspect of this practice has become more important (Aghazadeh et al., 2018). The previous generation emphasized the characteristics of employees, their shortcomings, and abilities in performance appraisal programs, but today's philosophy of performance appraisal insists on the current performance and future goals of employees. A modern philosophy of appraisal expresses the participation of employees in determining goals in a reciprocal manner and with the help of the manager. Therefore, the modern philosophy of performance appraisal, as emphasized by Davis and Newstrom (2013), is that:

- Its orientation is toward performance.
- It insists on goals.
- Goal-setting is done through mutual consultation between the manager and employees.

Why should we measure performance?

The ultimate goal of a performance measurement system is to improve organizational performance. Research conducted by Lingel and Shiman shows that companies that use performance measurement approaches to urbanize. Their performance is better than that of other companies in three important aspects: they are leaders in their industry, have higher financial results, and have a higher ability to urbanize change. A good performance measurement system can contribute to the success of the organization in five ways (Mehdi, 2024).

These five ways are:

Determining the current position of the organization.

- Conveying the direction and destination of the organization to others
- Stimulating and motivating actions in the most important key areas of the organization
- Facilitating learning
- Influencing employee behavior
- And as they say, if you can't measure, you can't urbanize
- Factors Affecting Organizational Performance
- According to the theory of open systems, organizations interact with the environment to provide the energy and resources they need (to provide goods or services), (Zakerhaghighi et al., 2015).

They take raw materials, human resources, material resources, and information from the environment and return goods, manufactured services, or processed information to the environment (Sadigh Sarabi et al., 2024). Therefore, environmental factors affect the performance of the organization. Environmental factors affecting the performance of the organization include; economic situation, technical and technological factors, the status of laws and political issues, and cultural and social conditions (Gheitarani et al., 2024). Of course, the extent of the effects of these factors varies. However, the following factors have a greater impact on the performance of the organization. Such as suppliers of materials and other requirements of the organization, customers and employees, clients, institutions supervising the performance of the organization, and ... (Naghibi Iravani et al., 2024).

Objectives of evaluating the performance of the organization. The most important objectives for evaluating the performance of the organization are as follows:

a) Identifying the weaknesses and strengths of the organization to improve productivity;

b) Helping managers to improve urban development by applying scientific principles of urban development;

c) Helping to select the right goals, and appropriate strategies and developing laws, regulations, and methods,

d) Optimal use of human resources and facilities to implement approved programs;

e) Increasing the level of public trust in the organization's performance;

c) Improving the organization's accountability to customers (citizens) (Zakerhaghighi et al., 2015).

Objectives of performance evaluation systems in municipalities. The objectives of using performance evaluation systems can be classified into three groups:

a) Creating accountability; This means public accountability between the government and citizens or internal accountability between heads of departments and council members;

b) Improving performance; This means improving policies, programs, plans, and processes used in providing services, quality, quantity, and cost of services;

c) Helping to determine costs; This goal means a results-oriented budgeting method. This system allocates resources to specific and measurable results that are consistent with priorities (Gheitarani et al., 2013).

Benefits of evaluation for municipalities. The benefits of performance evaluation for municipalities can be classified into three categories:

- Stronger results-oriented urban development;
- Improved customer service;
- Improving communication between municipal employees and managers and citizens, the municipality, and the city council (Sadigh Sarabi et al., 2024).

Performance Evaluation Process:

The organization's performance evaluation process is as follows:

a) Developing or reviewing missions, missions, macro-goals, and strategies,

b) Developing and setting performance evaluation indicators;

d) Communicating and announcing expectations and evaluation indicators to the appraiser;

e) Measuring actual performance;

c) Comparing actual performance with quantitative targets set for each branch\ P;

g) Announcing the results and how to achieve them to the assessee;

h) Taking action to implement corrective actions to continuously improve the assessee's performance through a feedback mechanism (Farrokhirad & Gheitarani, 2024; Gheitarani et al., 2020).

Historical course of performance assessment. The historical course of organizational performance assessment is as follows:

Table.1: Historical course of performance assessment

How to Evaluate Performance	Period
Performance evaluation existed in its early stages, in a way that successful people received rewards or possibly promotions.	Before 1800 AD The phenomenon of division of labor among members of the tribe
The formal evaluation system at the individual and organizational levels was proposed by Robert Owen in the textile industry.	From 1800 AD in Scotland
The use of wood in different colors to reject or accept goods is an evaluation of the quality of the organization's output.	The emergence of the Industrial Revolution
Creating financial evaluation systems to meet the demands of entrepreneurs.	The expansion of companies and financial centers from the mid-19th century
The indicators used in the evaluation were based on efficiency.	Taylor's scientific urbanism movement in 1919 AD
The evaluation was based on productivity;	1920s
Repetitive activities of individuals were evaluated based on standard criteria.	1920s to the end of the 1980s
Concepts such as investment evaluation principles and capital return budgeting were proposed.	From 1990 onwards

III. METHODOLOGY

Designing a Performance Monitoring and Evaluation System for Tehran Municipality. This project was defined in 2021 at the Tehran City Studies and Planning Center and the Urban Planning and Development Organization Employees Cooperative Company was selected as its implementer**.** The goal of the performance monitoring and evaluation system for regions and organizations affiliated with Tehran Municipality was to systematize and smarten up performance evaluation, increase the efficiency and productivity of performances, develop quantitative and qualitative urban services, and increase citizen satisfaction**.** Another goal of this plan was to provide a model and mechanism by identifying effective variables and indicators in performance evaluation so that during implementation, software can be provided to evaluate the performance of Tehran Municipality**.** In this plan, performance evaluation is defined as measuring the success of urban development and the organization in complying with the rules, regulations, and goals set in the development plan**.** In this plan, pilot implementation stages were foreseen in Regions 13 and 22 and the municipal beautification and inspection organizations before comprehensive implementation (Dizaji et al., 2023)**.**

Designing the Performance Evaluation System for the Social and Cultural Deputy of Tehran Municipality. Since the social and cultural field of Tehran Municipality has been facing challenges in evaluating the performance of regional managers due to the diversity of tasks and the multiplicity and breadth of organizational levels, this project was commissioned by the General Directorate of Social and Cultural Studies in 2008**.** In addition to having theoretical support, this evaluation system has the empirical background of managers in this field**.** The system that has been designed is completely indigenous and appropriate to the conditions of Tehran Municipality, and the indicators can be updated**.** The evaluation is planned in four dimensions, and the AHP and entropy methods have been used to analyze the data**.** This research also examines the performance evaluation system and methods in some countries and municipalities around the world in the social and cultural fields (Samami et al., 2024)**.**

Designing the indicators and performance evaluation system of Tehran Municipality. This research was conducted in 2020 by Ali Akbar Islam. Since studies and surveys to evaluate the status and performance of Tehran Municipality using indicators and systematic and structured models or patterns do not have a long history, the Municipality Information Technology Organization has conducted several study projects in this regard in the last few years**.** In this study, the definition and design of indicators for creating a municipal performance evaluation system were discussed, and the performance evaluation and design of indicators were carried out according to the municipality's five-year operational plan and with a focus on departments and the overall level of the organization**.**

The structure of this research is based on three parts:

- Organizational understanding and providing theoretical foundations
- Designing and extracting indicators according to the selected model and first-stage studies

- Completing the identity card of indicators according to the designed model and indicators
- Performance Assessment of the Organization of Municipalities and Rural Communities

This organization was established in late 2019 and is responsible for guiding and supervising the activities of municipalities, as well as providing financial, technical, executive, and urban development support to municipalities and their affiliated organizations in various fields. The main objective of this research was to design a general performance evaluation system according to the prevailing conditions in the implementation of the project. In this organization, the PDCA cycle has been used to develop a performance measurement system, which consists of 4 main phases:

- Designing a performance measurement system
- Implementing a performance measurement system
- Reviewing the performance measurement system
- Improving performance

Summary of the Comparative Study of the Performance Evaluation System of Municipalities. According to the comparative study of the performance evaluation systems in the municipalities of Pretoria and Charlotte and during the study of the model used in the evaluation of municipal performance in the world's sample cities, the results are summarized in the following table:

Table.2: Performance evaluation system of sample municipalities in the world's countries

Performance Evaluation Model	Title	Row
(Modeling and Comparing Municipal Performance)	Municipalities of Ontario, Canada	1
Balanced Assessment Method	Municipalities of Charlotte	2
Balanced Assessment Method	Municipalities of Seattle (United States)	3
European Quality Foundation	Municipalities of Spain	4
Logic Model	Municipalities of the Philippines	5
Balanced Assessment Method	Municipalities of England	6
Balanced Assessment Model	Municipalities of Australia	7
Balanced Assessment Model	Municipalities of Finland	8
Performance Evaluation Model	Municipalities of Pretoria (South Africa)	9

Statistical population. A statistical population is a set of individuals or units that have at least one common attribute**.** Usually, in any research, the population under study is the statistical population whose variable attribute the researcher wishes to study**.** In this research, there are two types of statistical populations:

• All employees of the Urban Planning and Architecture Department of Regions 7 and 10 of Tehran Municipality, which are 90 people**.**

• Citizens of Regions 7 and 10 of Tehran Municipality use the services of the Urban Planning Department, which is considered an unlimited population**.**

Statistical sample. A statistical sample is a set of signs that are selected from a part, a group, or a larger community, in such a way that this set represents the characteristics of that part, group, or larger community**.** In this research, since part of the statistical population (managers and employees of the Urban Planning Department of Regions 7 and 10) was small and limited, the entire community was selected as a statistical sample**.** In other words, in part of this research, the census method was used for sampling**.** The statistical sample or sample size of this research for experts in each region is 45 people**.** The permissible error level is usually considered to be 0.05, but in this study, because part of the society is made up of citizens and two regions are studied, the permissible error level is considered to be 0.09 in consultation with professors**.**

The sample of citizens for each region is 118**.** Therefore, 118 questionnaires were distributed among citizens in each region, 100 of which were returned to the researcher after completion**.**

Sampling method. Sampling is a process in which several units are selected in such a way that they are representative of the larger society from which they are selected**.** Various methods can be used for sampling, the most important of which are as follows:

- Simple random sampling
- Systematic sampling
- Stratified sampling
- Cluster sampling
- Staged sampling

In this study, a simple random method was used to select the sample, in which each person in the society is given an equal chance of being selected in the sample**.** This Region,

which is located in the center and heart of Tehran, has 5 Regions 16 neighborhoods, and an area of about 1536,800 square kilometers. Gorgan, Nizamabad, Abbasabad, Eshratabad, and Andisheh neighborhoods are among the famous neighborhoods of this Region (Norouzian, 2024). The population of Region 7 is more than three hundred thousand people. The population of Region 7 is 310,184 people. This Region had a negative growth rate during the years 2010-2020, which has gradually reduced its population decline. The population growth trend of the region during the years 2006-2013 was positive for the following reasons:

In the early 1970s, with the municipal self-sufficiency policy, Tehran Municipality started selling excess building density and earning income. Based on the resolution of the Supreme Council of Urban Planning and Architecture of Iran, municipalities with more than 200,000 people were allowed to increase building density by a maximum of 25 percent compared to the approved master plan. After the approval of this law in 2020, housing construction increased.

Another important factor that had a significant impact on the increase in construction was Resolution 269 dated 08/07/2020, which determined the density and floors up to seven floors depending on two factors: the width of the passage and the area of the land. The location of Region 7 in the central area of Tehran and the expansion of the central core, which has been accompanied by the change of residential uses to commercial-office uses, has had effects such as increased travel attraction to the region, a sharp difference between the night and day population, a lack of parking, etc. If the current trend continues and there is no proper planning for it in the coming years, it will lead to the depopulation of the residential fabric and the increase in commercial, administrative, and sometimes warehouse and workshop uses (Khanian et al., 2013).

This issue is in a situation where strengthening the residential function of the center of Tehran and improving the social fabric of residential areas within the framework of proper planning can be a fundamental measure to preserve, revive, and strengthen the social and cultural role of this center.

- Main problems of the region
- Declining residential values
- Lack of leisure facilities
- Existence of dilapidated fabrics
- Imbalance between day and night population
- Lack of green and open spaces

Introduction to Region 10 of Tehran Municipality. With an area of 817 hectares, Region 10 is the smallest Region of Tehran Municipality after Region 17 and has three Regions and ten councils. The population of the region is about 320 thousand people with a gross population density of about 420 people per hectare, which is considered one of the most densely populated areas of Tehran among the 22 areas, and its population is four times the standard limit and twice the average density in Tehran. About one hundred thousand households live in this area, and women make up 49.15 percent and men make up 50.87 percent of the population of this area. 23.86 percent of the population of this area belongs to young people (between 19 and 24 years old) and 86.12 percent of the total population is literate (Gheitarani et al., 2024).

Main problems of the area:

- Over-density
- The existence of dilapidated fabric
- Severe lack of leisure spaces
- Severe lack of green space

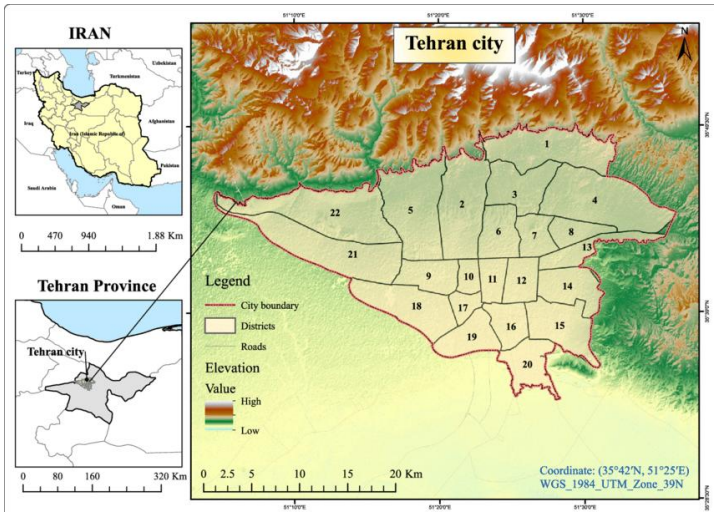

Fig.1: Location of Regions 4 and 8 of Tehran Municipality

IV. FINDINGS

After the researcher has collected, extracted, and classified the data and prepared the frequency distribution tables and distribution ratios, a new stage of the research process, known as the data analysis stage, must begin. This stage is very important in research because it reflects the great efforts and efforts of the past (Maleki et al., 2024). In the analysis stage, the important point is that the researcher must analyze the information and data in the direction of the research objective, answering the research question or questions. Main question: Is the performance of the Urban Development Deputy of Tehran Municipality Regions 4 and 8 desirable? The statistical equivalent of the main research question is defined as follows:

$$\begin{cases} H_0: \mu_1 = \mu_2 \\ H_1: \mu_1 \neq \mu_2 \end{cases}$$

The null hypothesis is equivalent to the fact that there is no interpretable difference in the degree of desirability of the overall performance of the organization in the two regions, and the first hypothesis is equivalent to the fact that the

achievement of the objectives of the municipal operational plan in the two regions is different.

Table.3: Two-sample independent t-test for the achievement of the objectives of the municipal operational plan in regions 4 and 8 from the perspective of citizens.

Significance level Sig.	t-statistic	Mean difference	Significance level Sig.	t-statistic	standard deviation	Average	Number	Group
0.175	1.36-	-0.193	0.000	9.916	1.00	5.99	100	Region 4
			0.000	11.87	1.00	6.18	100	Region 8

According to the table (3), the significance level obtained for the independent t-test is 0.175. Which is more than the error level considered by the researcher (0.05), so there is no reason to reject the null hypothesis. That is, the degree of desirability of the overall performance of the organization in the two regions does not have an interpretable difference. On the other hand, considering the averages obtained for the objectives of the municipal operational plan in two regions 4 and 8, both of which are more than the average level, and the significance levels obtained (0.000) are smaller than the error level of 0.05. Therefore, it can be concluded that from the perspective of citizens, the performance of the Urban Planning and Architecture Department in both regions 4 and 8 is in a desirable state (Naghibi Iravani et al., 2024).

Conclusion of the research questions from the perspective of citizens. From the perspective of the citizens of Regions 4 and 8 of Tehran, two dimensions (organizational learning and stakeholder satisfaction) derived from the municipal operational plan are in a desirable state, and there is no interpretable and significant difference between the averages of those dimensions in Regions 4 and 8. However, regarding the process excellence and stakeholder value dimensions, it can be said that the program goals in Regions 4 and 8 have not been achieved and are not in a desirable state (Norouzian, 2024). Prioritizing the dimensions of the Kanji scorecard from the perspective of the citizens in Region 4. The Friedman test is used to prioritize the dimensions:

Table 4: Friedman test for prioritizing the dimensions of the Kanji scorecard

Average rating	**Average**	**Factors**	**Rank**
3.14	6.42	Organizational Learning	1
2.63	6.00	Stakeholder Satisfaction	2
1.89	4.71	Process Excellence	3
1.56	4.53	Stakeholder Value	4
Significance level: 0.000			

As can be seen from Table (4), the desirability of the four dimensions of the indicators derived from the municipal operational plan in Region 4, in order of priority, are: 1. Organizational learning, 2. Stakeholders, 3. Process excellence, and 4. Stakeholder/financial value. On the other hand, given that the difference in the average between the first and fourth ranks is more than one unit, it can be concluded that from the perspective of citizens, the performance of the Urban Development Department of Region 4 in the four dimensions is not balanced.

Prioritizing the dimensions of the Kanji Scorecard from the perspective of citizens in Region 8. The Friedman test is used to prioritize the indicators:

Table 5: Friedman test for prioritizing the dimensions of the Kanji Scorecard

Average rating	Average	Factors	Rank
3.12	6.57	Organizational Learning	1
2.99	6.30	Stakeholder Satisfaction	2
2.01	4.96	Process Excellence	3
1.61	4.60	Stakeholder Value	4
Significance level: 0.000			

As can be seen from Table (5), the realization of the four dimensions of the indicators derived from the municipality's operational plan in 2019 in Region 8, in order of priority, are: 1. Organizational learning, 2. Stakeholders, 3. Process excellence, and 4. Stakeholder/financial value.

On the other hand, given that the difference in the average between the first and fourth ranks is more than one unit, it can be concluded that from the perspective of citizens, the performance of the Urban Development Department of Region 8 in the four dimensions is not balanced.

Testing research questions related to experts and specialists. In this section, the research questions are tested based on the data obtained and using statistical tests. First, the normality of the statistical population was tested using the Kolmogorov-Smirnov test. The results of this test are given in the table below (Karimimansoob et al., 2024).

Table 6. Kolmogorov-Smirnov test to examine the normality of the population

Beneficiaries	**financial**	**Process Excellence**	**Organizational Learning**		
90	90	90	90	N	
7.12	7.12	6.28	6.96	7.20	**Normal Parameters(a,b)**
1.19	1.19	1.21	1.11	1.58	
0.124	0.124	0.112	0.143	0.129	**Most Extreme Differences**
0.069	0.069	0.073	0.093	0.129	
0.124-	0.124-	-0.122	0.143-	0.115-	
1.17	1.06	1.35	1.22	**Kolmogorov-Smirnov Z**	
0.124	0.207	0.059	0.101	**Asymp. Sig. (2-tailed)**	

Given that the significance level obtained in the table (6) for the normality test of four variables (related to the section on examining the opinions of experts and specialists) is greater than the error level considered by the researcher (0.05), therefore, the statistical population of the study has a normal distribution. Given the normality of the statistical population, the Student's t-test with two independent samples is used to examine the research questions related to experts and specialists.

Main question: Is the performance of the Urban Development Deputy of Tehran Municipality Regions 4 and 8 desirable? The statistical equivalent of the main research question is defined as follows:

$$\begin{cases} H_0: \mu_1 = \mu_2 \\ H_1: \mu_1 \neq \mu_2 \end{cases}$$

The null hypothesis is equivalent to the fact that the level of desirability of the performance of the Urban Development Deputy in the two regions is not significantly different, and the first hypothesis is equivalent to the fact that the level of desirability of the performance of the Urban Development Deputy in the two regions is different.

Table 7: Two-sample independent t-test for the achievement of the objectives of the municipal operational plan in regions 4 and 8 from the experts' point of view

Significance level Sig.	**t-statistic**	**Mean difference**	**Significance level Sig.**	**t-statistic**	**standard deviation**	**Average**	**Number**	**Group**
0.929	0.09	0.02	0.000	12.07	1.02	6.84	45	Region 4
			0.000	9.72	1.25	6.81	45	Region 8

According to Table (7), the significance level obtained for the independent t-test is 0.929, which is higher than the error level considered by the researcher (0.05), so there is no reason to reject the null hypothesis. That is, the degree of desirability of the performance of the Urban Development Deputy in the two regions is not significantly different. On the other hand, considering the averages obtained for the performances of the Urban Development Deputy in the two regions 4 and 8, both of which are higher than the average level, and the

significance levels obtained (0.000) are smaller than the error level of 0.05. Therefore, it can be concluded that the performance of the Urban Development Deputy in the two regions 4 and 8 is in a desirable state.

Conclusion of the test questions from the experts' perspective:

From the experts' perspective, the Urban Development and Architecture Deputy in regions 4 and 8 of Tehran city, four dimensions (organizational learning, process excellence, stakeholder value, and stakeholder satisfaction) derived from the municipality's operational plan are in a desirable state. Also, according to the averages obtained, the performance of the deputy in two regions 4 and 8 did not have an interpretable difference (Khanian et al., 2019). Prioritizing the dimensions of the Kanji scorecard from the perspective of experts in region 4. The Friedman test is used to prioritize the dimensions:

Table 8: Friedman test for prioritizing the dimensions of the Kanji scorecard

Average rating	Average	Factors	Rank
2.97	7.14	Organizational Learning	1
2.91	7.10	Stakeholder Satisfaction	2
2.67	7.02	Process Excellence	3
1.46	6.31	Financial	4
Significant Level: 0.000			

As can be seen from Table (8), the degree of desirability of the four dimensions of the performance of the municipal urban development department in Region 4, in order of priority, are:

- Organizational learning, 2. Stakeholders, 3. Process excellence, and 4. Stakeholder/financial value.

Prioritizing the dimensions of the Kanji scorecard from the perspective of experts in Region 8

The Friedman test is used to prioritize the indicators:

Table 9: Friedman test for prioritizing the dimensions of the Kanji scorecard

Average rating	Average	Factors	Rank
3.18	7.26	Organizational Learning	1
3.08	7.15	Stakeholder Satisfaction	2
2.39	6.90	Process Excellence	3
1.36	6.25	Stakeholder Value	4
Significance level: 0.000			

As can be seen from Table (9), the degree of desirability of the four dimensions of the performance of the Urban Planning and Architecture Department of the Municipality in Region 8, in order of priority, are: 1. Organizational learning, 2. Stakeholders, 3. Process excellence, and 4. Stakeholder/financial value.

- Prioritizing the performance of the Urban Planning and Architecture Department from the perspective of experts / Answer to the open research question
- Prioritizing the performance of the Urban Planning and Architecture Department from the perspective of experts in Region 4 / Answer to the open research question

Table 10. Prioritizing the needs of stakeholders in Region 4

Percentage	Frequency		
37.8	17	1.00	**Priority**
24.4	11	2.00	
17.8	8	3.00	

20.0	9	4.00	
100.0	45	Total	

Answer to the main research question from the perspective of citizens and experts of the Urban Development Deputy of Region 4. Is the performance of the Urban Development Deputy of Region 4 Municipality of Tehran desirable? The statistical equivalent of the main research question is defined as follows:

$$\begin{cases} H_0: \mu_1 = \mu_2 \\ H_1: \mu_1 \neq \mu_2 \end{cases}$$

The null hypothesis is equivalent to the fact that the average desirability of the indicators of organizational learning, process excellence, stakeholder value, and stakeholder satisfaction in Region 4 is not significantly different from the perspective of citizens and experts. The first hypothesis is equivalent to the fact that the average desirability of these indicators in Region 4 is different from the perspective of citizens and experts.

Table 11: Independent two-sample t-test for the realization of the indicators in Region 4 from the perspective of citizens and experts

Significance level Sig.	Statistics t	Average difference	Standard deviation	Average	Number	Group	Indicators
.002	3.07	0.72	1.40	7.14	45	Experts	Organizational Learning
			1.25	6.42	100	People	Process Excellence
.000	7.13	2.31	1.03	7.02	45	Experts	Stakeholder Value
			1.05	3.23	100	People	
.060	5.89	1.78	1.14	6.31	45	Experts	Indicators Organizational Learning
			1.36	1.59	100	People	
.000	5.31	1.09	1.06	7.10	45	Experts	Process Excellence
			1.17	6.00	100	People	

According to Table (11), the significance levels obtained for the independent t-test for the indicators (organizational learning, process excellence, stakeholder satisfaction) are lower than the error level considered by the researcher (0.05). Therefore, in these three indicators, given that the average obtained is related to experts more than citizens. It can be said that experts have considered the observance of these three indicators by the municipality better than citizens, but for the stakeholder value index, given that the significance level obtained (0.06) is higher than the error level considered 0.05.

Therefore, it can be said that the average of the stakeholder value indices in Region 4 does not have an interpretable and significant difference from each other in the opinion of experts and citizens.

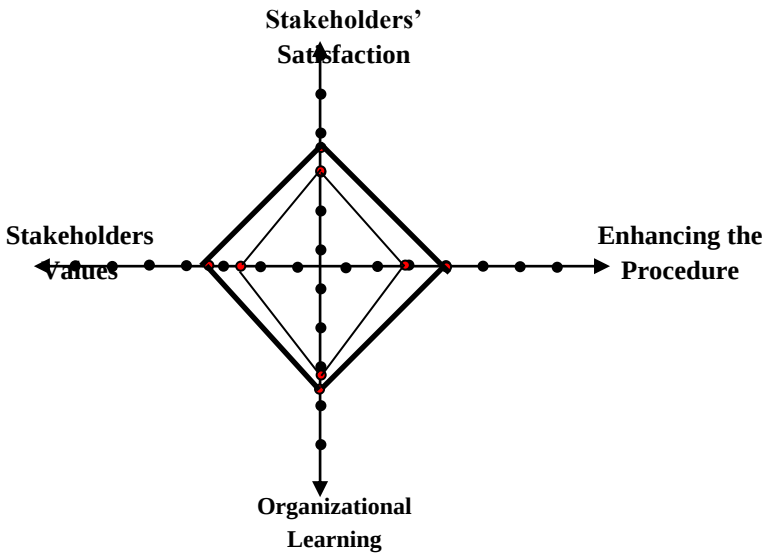

Fig.2: Comparison of the average indicators of the Kanji scorecard dimensions in Region 4 from the perspective of citizens and experts

According to Figure (2), the average of the Kanji scorecard dimensions from the perspective of experts (the Figure with thicker lines) is balanced, meaning that the performance of the deputy in the four dimensions of the Kanji scorecard was similar. It can be said that the Figure related to citizens is also almost balanced. It is also clear from considering the Figures that the average of citizens' opinions is lower than the average of experts' opinions.

V. RESULTS

Prioritization of research components in Region 4. The Friedman test is used to prioritize research components in region 4:

Table 12: Friedman test for prioritizing research components

Average Rank	Factors	Rank
9.91	Citizen satisfaction	1
8.77	Participation	2
8.12	Innovation in service delivery	3
7.98	Outsourcing of activities	4
7.84	Training	5
7.33	Development and improvement of the deputy's services	6
7.28	Efficiency and effectiveness of the deputy's urban development systems	7
6.60	Improvement of staff skills	8
5.91	Deputy staff satisfaction	9
5.72	Encouragement of public participation	10
5.32	Increase in revenue	11
2.12	Reduce costs	12

As can be seen from Table (12), the research components in Region 4 are listed in order of priority.

Prioritizing organizational learning components in Region 8. The Friedman test is used to prioritize organizational learning components in Region 8:

Table 13: Friedman test for prioritizing organizational learning indicators

Average rating	Average	Factors	Rank
3.49	12.319	Innovation in the provision of new services	1
2.27	6.744	Participation	2
2.21	6.620	Training	3
2.03	6.350	Improving staff skills	4
Significance level: 0.000			

As can be seen from Table (13), the organizational learning components of the municipality in Region 8, in order of priority, are: 1. Innovation in service delivery, 2. Participation, 3. Training, 4. Improving employee skills.

Prioritizing research indicators in Region 8. The Friedman test is used to prioritize research components in Region 8:

Table 14: Friedman test for prioritizing research components

Average Rank	Factors	Rank
9.02	Improving staff skills	1
8.88	Citizen satisfaction	2
8.38	Participation	3
8.17	Outsourcing activities	4
8.13	Innovation in new services	5
7.92	Training	6
7.64	Development and improvement of the deputy's services	7
6.72	Deputy staff satisfaction	8
6.40	Efficiency and effectiveness of the deputy's urban development systems	9
4.89	Encouraging public participation	10
4.67	Increasing revenue	11
2.47	Reducing costs	12

As can be seen from Table (14), the research components in Area 8 are listed in order of priority.

Pearson Correlation Coefficient Between Kanji Scorecard Dimensions.

In the Pearson correlation coefficient between organizational learning, process excellence, stakeholder/financial value, and stakeholders, it is calculated pairwise to determine whether by strengthening or weakening one of the dimensions, the other dimensions are also strengthened or weakened.

Table 15: Calculation of Pearson Correlation Coefficient Between Kanji Scorecard Dimensions

Stakeholder Satisfaction	Stakeholder Value	Process Excellence	Organizational Learning		
0.755	0.755	0.716	0.716	1	**Organizational Learning**
0.000	0.000	0.000	0.000	290	
290	290	290	290	0.716	**Process Excellence**
0.738	0.738	0.673	1	0.000	
0.000	0.000	0.000	0.000	290	**Stakeholder Value**

290	290	290	290	0.716	
0.728	0.728	1	0.673	0.000	**Stakeholder Satisfaction**
0.000	0.000	0.000	0.000	290	
290	290	290	290	0.755	**Organizational Learning**
1	1	0.728	0.738	0.000	
	290	0.000	0.000	290	**Process Excellence**
290	-	290	290	-	

VI. CONCLUSION

According to the above table, it can be said that the dimensions of the scorecard (organizational learning, process excellence, stakeholder/financial value, and stakeholder satisfaction) have a meaningful relationship with each other and affect each other in case of strengthening or weakening. The obtained significance level is 0.000, which is smaller than the considered error level of 0.05 In this study, titled "Evaluation of the Performance of the Urban Planning and Architecture Department of Tehran Municipality Using the Kanji Scorecard (Comparative Comparison of Tehran Municipality Regions 4 and 8)", the performance of the Urban Planning Department of Tehran Municipality was examined and analyzed from the perspective of the department's experts and the perspective of citizens. The sample size of citizens was determined as 200 (100 in Region 4 and 80 in Region 8) and experts as 90 (45 in Region 4 and 45 in Region 8).

The research conducted had 4 sub-questions and one main question that were formulated based on the conceptual model of the research. The necessary information in the present study was obtained using library study methods including books, articles, magazines, and the use of the Internet, as well as a questionnaire (after confirming its validity and reliability). The analysis and analysis of the data collected through the questionnaire was carried out at two levels: descriptive analysis and inferential analysis. Level of Analysis Descriptive analysis included descriptive analysis of demographic data (region, gender, age, level of education, type of job, residence status, and years of residence or employment in the neighborhood) and descriptive analysis of research-specific data (frequency, frequency percentage). At the inferential analysis level, in the first step, the reliability of the collected data was tested to determine the extent to which the questionnaire questions had an internal correlation. For this purpose, Cronbach's alpha coefficient was calculated. In the next step, using descriptive statistics, the collected information was summarized by preparing a frequency distribution table and shown with the help of a change Figure.

Using SPSS software, the distribution of data was tested using the Kolmogorov-Smirnov test. After ensuring the normality of the data distribution, the research variables were measured using the one-sample t-test. Finally, using an independent t-test, comparisons were made between the research variables between regions 4 and 8, as well as between experts and citizens, and using the Friedman test, the variables were ranked from the expert and citizens' perspectives in both regions.

In the inferential section:

First, the normality of the statistical population of citizens and experts was tested separately using the Kolmogorov-Smirnov test, and it was determined that the data of both populations were normal. In the next stage, the research questions were examined and tested from the citizens' perspective using the two-sample t-test. Two sub-questions and the main question of citizens were rejected. That is, we concluded that from the perspective of citizens of the two regions, there is no significant difference between the level of desirability of organizational learning indicators and stakeholder satisfaction. On the other hand, these indicators are in a favorable situation in both regions. However, regarding process excellence and stakeholder value, citizens believe that the level of desirability of these two dimensions in the two regions does not differ significantly and is almost the same. Since the values obtained for these two dimensions were lower than the average level, it was concluded that the citizens of the two regions believe that these two dimensions are not in a favorable state.

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