

A Scenario Planning of Urban Planning in the Municipality

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Abstract:- Since urban society is a dynamic, complex, and uncertain system, it cannot be expected to be planned with a purely rational approach and based on linear processes. In this research, urban planning scenarios in the municipality have been investigated. The purpose of this research is practical and survival. Also, the scope of the present analysis includes 68 municipalities of Tehran and Alborz provinces. In the present study, firstly, effective indicators of municipal planning were determined and then, using the DEMATEL method, the indicators were grouped into three groups of effective, impressive and two-side indicators. Finally, according to the determined indicators, the proposed scenarios were presented in four scenarios based on uncertainty in reliability, productivity, financial resources, information and cost reduction.

Keywords: *Futures studies, Scenarios, Municipality, Multi-criteria decision making, DEMATEL.*

I. INTRODUCTION

Uncertainty in the field of accurate and complete prediction of goals, priorities, and actions will make the planning process undergo major changes. The nature of human problems is complicated by the man himself, and their recognition is far more difficult than natural ones. Complexity, uncertainty, extreme changes, interconnectedness and the impossibility of accurate prediction are the most important features of the modern world and the twenty-first century, which requires planners to look at urban issues. With increasing changes in the late second millennium and the emergence of new challenges in the international community, the reliance on prediction-based planning methods has not been responsive to the needs of major country administrations, and the heavy shadow of uncertainties and the emergence of discontinuous events transformed the situation so that future prediction in a transformed world for planners seemed to be a problem. The inability to accurately predict the future, as well as the complexity of the ever-increasing changes, has led researchers to take advantage of the emerging knowledge of futures and to integrate foresight into the planning and forecasting activities of science and technology (Chermack, 2011).

Futures studies include a set of endeavors that, through resource analysis, patterns, and factors of change or stability, portrays potential prospects and plans for them. Also, reflect on how the "Today" changes (or not), the reality of "tomorrow" is born (Bell, 2003). In the Latin phrase "Futures Studies", the reason for the use of the term Futures

is because of the use of a wide range of methodologies instead of "just one future", a systematic and rational speculation about not just "one Future" but "Several Future Imaginary". Future studies include topics that are "possible", "probable" and "desirable" to change from present to future. Meanwhile, in a simple, yet very profound definition, futures studies have been titled "science and art discover the future and shape the desirable world tomorrow" (Khak Sefidi and Mesry, 2014).

The methods used in futures studies are (Martinich, 2008): Delphi technique, Modeling, Scenarios, Quantitative Analysis of Process, Qualitative Analysis of Process, Simulation & Gaming, Back Casting, Brain Storming, Horizon Scanning, Visioning, Drivers Analysis, Road Map and Historical Analysis.

Scenario-writing method, which is one of the "hypothesis-based" methods, is one of the most effective methods available to predict the distant future and in situations where there are many uncertainties in the system. In this method, spaces of the future that are possible and probable are depicted. It should be noted that scenario-writing is not the foreseeable future, and secondly, this method is suitable for decisions that have long-term effects (Godet, 2012).

This method is used in situations where there are many uncertainties and changes in the environment and conditions (such as the prediction of distant future); suitable for evaluating programs and examining whether something may have been forgotten; they are suitable for political and social negotiations. Of course, the goals and assumptions of each scenario are also important; a good starting point is to change the strategy of an organization; in this way, a "desirable future" can be reached by the current planning and strategy. It is difficult to translate scenario outcomes and outputs into executive decisions; the results of this approach are limited to those who participate in scenario-writing sessions; they are more based on qualitative analyzes (Godet, 2006).

The lack of intelligent recognition of the future in the past and the widespread developments in the field of technology coupled with the rapid pace of globalization are considered as the main problems of human society, and, accordingly, recognizing future developments with a futuristic approach is essential and a priority. Many future events are foreseeable. In the area of urban planning, which is based on the prediction of the future, the necessity of changing the approach from foresight to forecast is inevitable, and therefore the process of urban and regional studies requires

re-engineering to use the foresight approach in this process. Because in a modern look at planning, the planner first outlines the specific paths for the development architecture of the future based on the horizons of the future and by examining the future prospects and the present and past status. Urban planning and futures studies, despite the use of sophisticated methods, have different attitudes for the future (Akbarinasab and Taghi-Zadeh Qomi, 2017). This paper examines the urban planning scenario in the municipality.

II. RESEARCH BACKGROUND

Considering the importance of planning for the future, many scholars have addressed this issue, for example, Zalie (2011) has explored the strategic forecasting and regional policy making with the scenario-writing approach. This article discusses the future development of the regions based on the National Outlook document and the basic theory of provincial development. The theoretical framework of this research is a normative paradigm in planning with a loyal approach to upstream documents. At first, 14 factors of pivotal and effective for the province's development process that covers various dimensions of the basic theory of development of the province were extracted and for the above factors, based on the idea of scenario-writing, 59 possible situations in the future of the province were defined and by forming a two-dimensional matrix using Wizard scenario software capabilities, 5 scenarios with a high probability of occurrence, 19 scenarios with a moderate to high probability and 291 scenarios with low and poor probability were extracted. In this paper, 5 very strong scenarios and 19 scenarios with a medium to high probability of occurrence have been analyzed. Kaviani Koustrakhizi et al. (2012) have studied the adaptive study and categorization of methods of compiling road-technology map. This article reviews and analyzes the models presented in the literature to formulate a road-technology map at various levels such as (transnational, national, industry, firm, etc.). Tavalaei (2013) explores the issue of futures studies in Iran's cyberspace services in the Delphi method of globalization technology. His research was aimed at studying and monitoring the future developments of ICT services through the future studies and virtual space services offered in Iran in the technological process of globalization of this country. Sayyah Mafzali and Asadi (2014) have investigated the intellectual structures and key concepts in futures studies and presented the framework for the implementation of future studies. In this article, the authors are trying to discuss the key concepts by reviewing the intellectual structures of this field.

Zarezadeh et al. (2015) have developed a roadmap for implementing the strategy in public organizations with a comprehensive system intervention approach. This article seeks to take advantage of comprehensive systemic approaches that have a good ability to solve complex and dynamic problems, to streamline organizational strategies and to respond to some of the inadequacies in methods and models of strategy implementation. Given that each of the system methodologies has limitations, the meta-methodology of "comprehensive system interventions" because of its integrity and the ability to utilize the

combination of methodologies, has been selected to formulate a roadmap for implementing the strategy. Phani and Kazemi (2016), studying in the neighborhood of Sanglaj in Tehran, has investigated future studies and scenarios in order to plan regional development based on system analysis. This research, by systematically analyzing and emphasizing the necessity of identifying the factors influencing the system strategy, seeks to extract the structures that form the systems for planning development at the neighborhood level. The nature of the research is cognitive-research and the research data required includes library and documentary data, the results of residents' perceptions, and decision makers' opinions in urban management. Using the cross-impact analysis method and based on the important factor as well as uncertainty, the correlation of these factors with the neighborhood development was studied. The results of this study showed that among the 30 factors surveyed, the four factors of superlatives' performance in the Sanglaj area, the lack of incentives for modernization and texture exhaustion, the lack of security of the neighborhood space and the lack of proper recreational and welfare services for spending free time residents, have the highest impact and effectiveness on the system. These factors make the main forming axes of the development scenarios for the future development of the Sanglaj neighborhood. The authors of this paper believe that the process of future studies in this research, compared to current strategic planning processes, is based on the presentation of mental alternatives, without considering of the context and the key factors affecting the guiding structures and the impact on the planning environment, with a high degree of realism, accountability, and flexibility. Goodarzi et al. (2016) have proposed a framework for regional foresight as an interdisciplinary research area. This paper tries to provide a framework for an implementation of foresight studies on the development plan of Yazd province using a super combination method. For this purpose, the foresight frameworks have been reviewed by researchers and experts in this field and a new framework for foresight study has been obtained and validated by a team of experts in this field. The difference in the framework provided with other frameworks is to provide more comprehensive steps.

Joshua Ryan (2010) used a scenario planning approach to shape the future of northeastern Michigan in a research entitled "Shaping the Northeast Future of Michigan: Using the Delphi Method to Build Scenario Planning". Ayşe İdil (2010) in a research entitled "System Innovation for Sustainability: A Scenario Method and Workshop for Product Development" explores the relationship between activities/decisions on the level of product development (micro-innovation) in companies with changes required at the community level in order to achieve sustainability. This has been done in three phases: First, there has been a broad literature review covering the scientific areas of sustainability, futures studies, and the theory of system innovation. In the second phase, based on the literature review, a conceptual framework was developed to explain how the activities/decisions regarding structural and long-term changes at the socio-technical level were aimed at achieving sustainability at the product development level.

The third phase also included creating, evaluating and improving the scenario. Aumand (2011) explores the strategic sustainable planning for Gutenberg in 2050 using the backcasting methodology in a paper entitled "Applying the Backcasting Future studies for Sustainable Urban Strategic Planning". In this paper, several methods of scenarios have been developed to create a model for urban development as a planning tool. The backcasting future studies method has been studied in three approaches. The findings of this study indicate that backcasting is a suitable method for strategic sustainable planning and can be used for other countries.

Nicholas J. Rowland et al. (2017), in a research with the title of social baseline scenario planning, said that scenario planning models usually include a series of steps that follow sequencing process (linear or timed order). Conversely, recursive models allow the steps to be repeated, so they repeat. The authors raise concerns in future studies, while practice-based models are common in literature, and the theoretical basis for why these practices work is often meaningless. This includes models that link them to linearity and those that match it. With the theory of science and technology (STS) in the field of knowledge production, writers explain the transition from one phase to the next and repetition within and between phases based on social negotiations. To this end, the authors review the relationship between the stages of "scenario development" and "scenario use" of a planning process with a non-governmental organization in Denmark. Conclusion for facilitators, practical insights on how to recognize transfer, power transfer between phases, and phase repetition in scenario planning, empowerment and, consequently, management. Conclusion for researchers, the insight is that why scenario planning is a kind of laboratory for future studies that will be tested in the future.

III. THEORETICAL BASICS OF SCENARIO PLANNING

The scenarios after the 1970 oil crisis have become more commonplace with understanding the complexity of the universe and the loss of certainty. In fact, following the energy crisis in 1973, following the successful use of the Shell oil company, the scenarios method that enabled the company to effectively respond to the crisis, widely welcomed. The increasing use of this method is due to the fact that the scenarios take into account the complexities of the real world and represent alternative insights about the future in a logical sequence of events. In sum, scenarios are images of a believable future that show the logical sequence of events. Application scenarios are diverse; scenarios can be as information (inputs) based on which panel discussions are made. Also, scenarios can be used as tools for setting panel discussions or a way to deliver results.

Scenarios are specifically designed to address the multiplicity and unpredictability of the future. The advantage of this method is the ability to recognize the long-term future, very different today, as well as the scenario for choosing strategies based on this recognition. Scenario writers create stories about a long-term future through collaborative and participatory processes. Instead of a single

story, they produce a series of supplementary stories and at the same time completely different.

There are different approaches to scenario planning, each of which has been created by different schools of thought. The major approaches to this area are (Chermack, 2011):

- Royal Dutch/Shell and Global Business Network (GBN)
- The French School
- The Futures Group
- Wilson and Ralston
- Lindgren and Bandhold
- Reference scenarios
- Decision Strategies International
- Procedural scenarios
- Industry scenarios
- Soft creative methods

Each step of the scenario program should include the following:

- What actions should be taken?
- Who is responsible for the actions to be taken?
- When should each action take place and how long does it take?
- What resources are needed to carry out the relevant activities?
- To whom should the information be transmitted?

According to a review of the research, it can be said that their similarity is to use the Schwartz Intuition Logic Model, and their difference is the focus area of research. Accordingly, this research is conducted using the Schwartz model (which is valid and functional) and with the focus area of the future at the organization level.

IV. METHODOLOGY OF RESEARCH

The analysis of research data is based on quantitative analysis and the data found the base location and analyzed after quantization. So, from a methodological point of view, this research is of a kind of epistemology. According to the nature and scale of the research, the tool for analyzing the information required is based on the bank of a spatial database. After data collection, data analysis is carried out using statistical analysis and step-by-step implementation of the scenario method. Also, the scope of the present analysis includes 68 municipalities of Tehran and Alborz provinces. In the present study, firstly, the main indicators and sub-indicators of urban planning in the municipality were prepared by studying and observing the environment of the spatial domain of the research, in the form of a preliminary list, and then a Likert spectrum questionnaire, which contains the indicators in the preliminary list, was created and distributed to 60 experts from the municipalities on the basis of a well-known indicator of the competence. After data collection, the average of responses was calculated and the indicators having an average higher than 2.5 were determined as final indices. This work has been done to determine the key factors and indicators in designing scenarios.

After the final determination of the indices, the fuzzy DEMATEL method is used to determine the causal-

defective relationships and the level of influence. In fact, after determining the final indicators and also determining the relationships between them, scenarios can be made based on the causal-defective relationships. In the implementation of DEMATEL method, the data were collected using a pairwise comparison questionnaire.

V. ANALYZE

In this section, firstly, the effective factors of planning in the municipality according to the environmental study and

observation of the municipalities were determined, which are shown in Table 1. After determining the effective factors of urban planning, a questionnaire with the 5-option Likert spectrum was prepared and provided to the members of the sample. Then, the average of individual responses to the questions related to the impact of each of the factors mentioned in Table 1 on the planning of the municipality was calculated (Table 2).

Table 1: Effective Factors of Urban Planning in the Municipality

Factor	Row
Employee satisfaction	1
Organization in terms of the process	2
Organization in terms of number of employees	3
Per capita cost	4
The quality of asset use	5
The opinion and satisfaction of citizens and society	6
Environment and urban services	7
Reduce costs	8
Realization of financial resources	9
The amount of investment attracted	10
The contribution of education and research activities	11
Energy	12
Skill and knowledge and science levels of employees	13
Industry and other organizations	14
Technology	15
Efficiency	16
Transportation	17
Management	18

Table 2. The scores average of factors influencing urban planning in the municipality

Average scores	Factor	Row
2.87	Employee satisfaction	1
3.12	Organization in terms of the process	2
2.92	Organization in terms of number of employees	3
3.46	Per capita cost	4
4.25	The quality of asset use	5
3.72	The opinion and satisfaction of citizens and society	6
3.55	Environment and urban services	7
3.99	Reduce costs	8
4.13	Realization of financial resources	9
3.75	The amount of investment attracted	10
2.89	The contribution of education and research activities	11
3.88	Energy	12
2.98	Skill and knowledge and science levels of employees	13
4.01	Industry and other organizations	14
3.75	Technology	15
4.56	Efficiency	16
3.22	Transportation	17
3.84	Management	18

As shown in Table 2, all factors considered have an average of more than 2.5, so all factors are used as key factors in the planning of municipality.

DEMATEL (Decision Making Trial And Evaluation) method is one of a variety of group decision-making methods based on paired comparisons and expert judgments, which was presented by Fonetla and Gabus between 1976 and 1971 for studying and solving complex and interconnected problems in the world, and for purposes of strategic and objective global issues were considered in order to access the appropriate solutions. This method involves the following steps:

1. Creating a Direct Relationship Matrix: At this stage, a two-dimensional matrix with dimensions 18*18 was prepared in which the factors influencing the planning were compared with each other in a pair of values from 1 to 5. This matrix is given to sample individuals, and then the average evaluations are used in the form of a single matrix.
2. Normalizing the Direct Relationship Matrix: To normalize the direct relationship matrix, the first sum of each row and each column is computed, and then the values of each matrix home are divided to reverse the maximum sum of rows and columns.

3. Calculate the complete matrix. To calculate the complete matrix, use the following equation (in this case, N is the normal matrix provided in the previous step).

$$T = N \times (1 - N)^{-1} \quad (1)$$

4. Determination of causal-defective relationship:

- The sum of the elements of each row (D) for each factor indicates its effect on other factors (effective factors).
- The sum of the elements of each column (R) for each factor indicates its effect on other factors (influencing factors).

- (D + R) is the magnitude of the impact of the agent on the system, and whatever the value (D + R) for a factor is more, and then this factor have more interaction with other factors.
- (D - R) shows the strength of the influence of each factor. If the value (D-R) for a factor is positive, that factor is causal and if it is negative, it is defective.

After determining the final list of factors, using the DEMATEL method, determining the causal-defective relationships and determining the effective factors were considered (Table 3).

Table 3- Determination of influencing variables

D-R	D+R	R	D	Factor	Row
14	116	51	65	Employee satisfaction	1
4	130	63	67	Organization in terms of the process	2
6	108	51	57	Organization in terms of number of employees	3
3	165	81	84	Per capita cost	4
5	175	85	90	The quality of asset use	5
-14	92	53	39	The opinion and satisfaction of citizens and society	6
-14	92	53	39	Environment and urban services	7
-4	170	87	83	Reduce costs	8
-2	174	88	86	Realization of financial resources	9
-2	174	88	86	The amount of investment attracted	10
12	126	57	69	The contribution of education and research activities	11
10	119	55	65	Energy	12
10	112	51	61	Skill and knowledge and science levels of employees	13
13	105	46	59	Industry and other organizations	14
6	174	84	90	Technology	15
1	173	86	87	Efficiency	16
-24	114	69	45	Transportation	17
4	154	75	79	Management	18

As can be seen in Table 3, employee satisfaction, organization in terms of process, organization in terms of number of employees, per capita cost, quality of use of assets, the contribution of education and research activities, energy, skill and knowledge and science levels of employees, industry and other organizations, technology, efficiency and management are the causal, and issues such as citizen and community satisfaction, environment and urban services, reduce costs, realization of financial resources, the amount of investment attracted and management are the defective. Also, checking the values of (D-R) indicates that for some indicators, this value is less than 10 or more than 10. However, the values of (D + R) for these indicators are high and these indicators have a lot of interaction with the system and are considered as two-sided indicators. According to these values and the causal and defective indicators, three groups were made for effective indicators of planning:

Effective indicators: employee satisfaction, the contribution of education and research activities, energy, skills and levels of knowledge and science of employees, industry and other organizations.

Impressive Indicators: the opinion and satisfaction of citizens and society, environment and urban services, management.

Two-sided Indicators: organization in terms of process, organization in terms of a number of employees, per capita cost, quality of asset use, technology, efficiency, reduce costs, the realization of financial resources, the amount of

investment attracted, management. Due to their high degree of interaction in the system, these variables are very important in the preparation of scenarios. Accordingly, these variables are used for scenarios.

Subsequently, the concepts of these variables were examined and the main factors were grouped according to experts' views.

5. Organizations in terms of process and number of employees and management: These indicators refer to the organizational structure and consider the reliability of organizational processes for implementing the projects as well as the number of employees. On the other hand, the management manages organizational processes and the number of workforces. Therefore, these indicators can be considered in a group that affects other indicators of the defective and are grouped as a reliable system.
6. Cost per capita, cost reduction: These two indicators emphasize the cost reduction of the system, which is influenced by other factors and is grouped as a reduce cost factor.
7. The quality of the use of assets, the realization of financial resources and the amount of attracted investment are also grouped as a source of funds.
8. The efficiency and quality of asset use are also grouped as a factor in productivity.
9. Another factor, called ICT, is based on the technical indicator.

Based on the categorization of indicators as effective, influential and two-sided, the initial list of the main indicators and sub-indicators involved in the scenarios provides in Table 4. After the list was prepared, experts recommended that effective sub-indicators be appropriate

and desirable, and the percentage of agreement of experts with the desirability of proposed factors is also shown in Table 4. Among the suggested factors, the factors that over 10% of the experts voted for them were selected as final factors.

Table 4: Initial list of the main indicators and sub-indicators of urban planning in the municipality

Reduce costs	Information and communication	Financial resources	Efficiency	Reliability
Reducing job shifts 1.6%	Staff Training Management 37%	Create a Financial Perspective 1.6%	Create a consumption control group 1.5%	Management Maintenance Program 60%
Supply of alternative energy 48%	Industry-related communication management 13%	Budget consolidation 47%	Calculate the risk of changing the energy type 2%	Process management and removal of additional processes 3.1%
Changing the way of energy transportation 2.3%	Use of modern communication technologies to inform people of 10%	The absence of inappropriate financial procedures 2.4%	Review of Operational Procedures and Resource Management 2.3%	Upgrading technologies 20%
Considering a fine 7%	Use educational help tool 2.1%	Compilation of Financial Supervisors Regulations 6%	Calculate existing productivity 45%	Operations Management 4.4%
Review costing processes 15%	Installation of information boards 3.9%	Economic Analysis Training for Employees 16%	Evaluate energy consumption 36%	Create alternative programs 10%
Energy talks 3.1%	Managing Communications with Citizens and the Community 26%	Return of financial savings to the account of the company 3%	Calculate the energy efficiency of the organization 12%	Staff Training 2%
Manage usage time 27%	Employee Behavior Management 8%	Considering short-term funding 24%	Energy Consumption Control 1.2%	Use of experienced staff and staff adjustment 1.5%

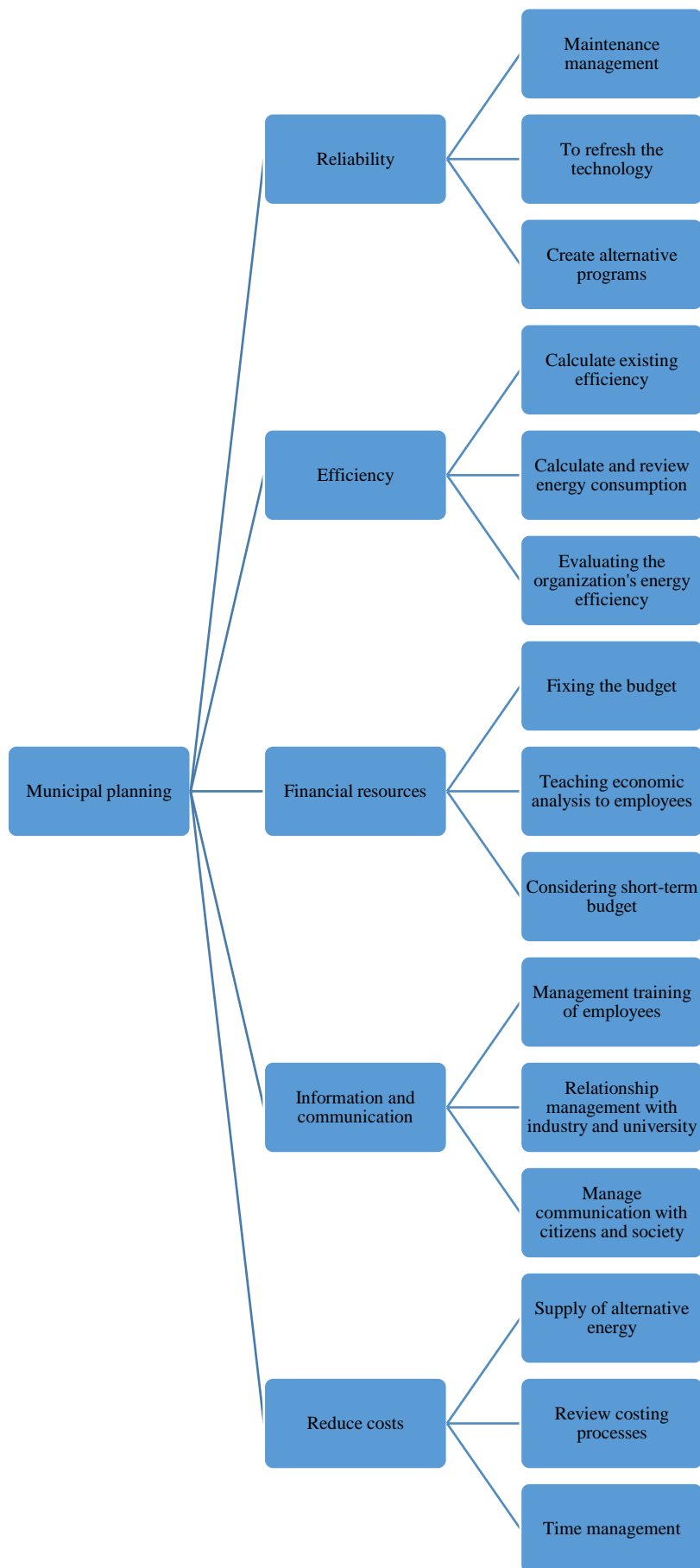


Figure 1. Final factors affecting the planning of the municipality

Figure 1 shows the effective factors for the future planning of the municipality. Based on these factors, the probable future of the municipalities is defined in terms of scenarios

of the creative and dynamic municipality, efficient municipality, dynamic municipality but dependent and existing municipality.

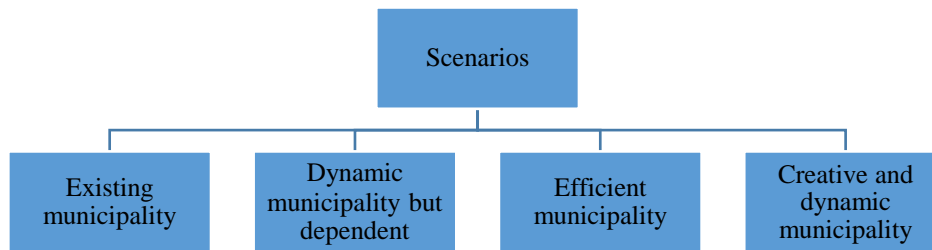


Figure 2. Final Scenarios of Municipality Planning

10. Scenario 1: Creative and dynamic municipality: In this scenario, reliability, efficiency, financial resources, information and communication and cost reduction are desirable. In this scenario, (1) using the effective elements of leadership and management, the use of new technologies and having alternative programs (for use in case of failures in existing programs), the reliability of the organization is high and the organization is prepared to face sudden changes; (2) By calculating the existing efficiency, the assessment of energy consumption and the assessment of energy efficiency periodically allows the organization to continuously identify its weaknesses and deficiencies in the field of efficiency and can provide effective measures to reduce or eliminate deficiencies, using its opportunities and strengths, and plan the necessary measures; (3) The organization, with the consolidation of the budget, the use of short-term budgets, as well as the training of specialist staff in economic analysis, will make the most of available resources and overcome existing financial constraints; (4) By building a suitable platform for communication with citizens and society, the organization increases their satisfaction of society and reduces the threats of social dissatisfaction and gives the opportunity to create community-based collaboration with the organization. The organization also uses industry funding and the advice of academic experts by connecting with industry and universities and (5) the organization uses alternative and cheap energies to reduce its costs and also revises and eliminates additional and costly processes at the organization level. On the other hand, creating time management programs also eliminates the cost of wasting time.

11. Scenario 2: Efficient municipality: In this scenario, (1) using the effective elements of leadership and management, the use of new technologies and the availability of alternative programs (for use in case of failures in existing programs), the reliability of the organization has been high and the organization is prepared to face sudden changes; (2) By calculating the existing efficiency, the assessment of energy consumption and the assessment of energy efficiency periodically allows the organization to continuously identify its weaknesses and deficiencies in the field of efficiency and can provide effective measures to reduce or eliminate deficiencies, using its opportunities and strengths, and plan the necessary

measures; (3) The organization, with the consolidation of the budget, the use of short-term budgets, as well as the training of specialist staff in economic analysis, will make the most of available resources and overcome existing financial constraints; (4) By building a suitable platform for communication with citizens and society, the organization increases their satisfaction of society and reduces the threats of social dissatisfaction and gives the opportunity to create community-based collaboration with the organization. The organization also uses industry funding and the advice of academic experts by connecting with industry and universities and (5) the organization uses alternative and cheap energies to reduce its costs and also revises and eliminates additional and costly processes at the organization level. On the other hand, creating time management programs also eliminates the cost of wasting time.

12. Scenario 3: Dynamic municipality but dependent: In this scenario, (1) by building a suitable platform for communication with citizens and society, the organization increases their satisfaction of society and reduces the threats of social dissatisfaction and gives the opportunity to create community-based collaboration with the organization. The organization also uses industry funding and the advice of academic experts by connecting with industry and universities and (2) the organization uses alternative and cheap energies to reduce its costs and also revises and eliminates additional and costly processes at the organization level. On the other hand, creating time management programs also eliminates the cost of wasting time; (3) The organization, with the consolidation of the budget, the use of short-term budgets, as well as the training of specialist staff in economic analysis, will make the most of available resources and overcome existing financial constraints; (4) The leadership and management of the municipality is dependent on other municipalities and the reliability of the organization depends on other municipalities. For example, Ray's municipality is affiliated with the municipality of Tehran; and (5) municipal efficiency is affiliated with the high-level organization and depends on the "existing efficiency", "evaluate energy consumption" and "energy efficiency assessment periodically" in the top-level organization.

13. Scenario 4: Existing municipalities: In this scenario, reliability, efficiency, financial resources,

information and communication and cost reduction are not desirable.

VI. CONCLUSION

As we have seen, in the present study, urban planning scenarios in the municipalities of Tehran and Alborz were discussed. In this regard, five main factors of reliability, efficiency, financial resources, information and communication and cost reduction are extracted. For scenarios, at first, 18 effective indicators on urban planning were identified in the municipality and using DEMATEL method, effective, impressive and two-side indicators were determined. Then, based on the two-side indicators, according to the experts, four scenarios of the creative and dynamic municipality, an efficient municipality, a dynamic but dependent municipality and the existing municipality were determined and scenarios were designed based on effective and impressive indicators.

The creative and dynamic municipality is the most desirable scenario. To achieve this, (1) the organization should consider proper management, use of new technologies, and having alternative plans that the municipality has a readiness to face an uncertain future in urban planning. (2) The organization should identify its weaknesses with frequent and periodic evaluations, and to reduce them and increase efficiency. (3) In order to overcome financial constraints, the organization must also be obliged to participate in training courses in economic analysis and obtaining degrees in order to overcome budget constraints and use short-term budgets. (4) The organization should use appropriate communication methods to attract the participation of citizens and society as well as attract industry and universities participation, thus protecting themselves from environmental threats and using opportunities available in the environment. (5) The organization must use alternative and cheap energy in the future, and at the organization level, review and eliminate additional and costly processes and manage time properly. The following strategies are also proposed based on scenarios:

1. Using the effective elements of leadership and management of time management and maintenance programs;
2. Establishment of communication with major universities and professors in the field of municipal management as advisors;
3. Focusing on the use of modern high-tech technologies in municipalities has a desirable program for its future, and moving on to the future based on this plan.

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Chart 1. Factors Affecting Urban Management

After determining the effective factors, a questionnaire with 5-option Likert spectrum was prepared and provided to the sample members. Then, the average of the responses was calculated and the final factors were selected (factors with an average above 2.5) (Table 1).