

CASE STUDY

Strategic management in urban environment using SWOT and QSPM model

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ABSTRACT: Sustainable urban development is a new concept of fundamental environmental metropolitan management that not only creates the demand for changing the concepts of economic development, but also affects social development. The current study provides a conceptual model of a sustainable environment pattern in District 22 of Tehran that depends on the relationship between environment and economy, and a network of urban function, which included transport infrastructure and community centers and economic and regional level in support of the ecological services in Tehran. This landscape often had discrepancies with the development of the city between the layers and the creation of ecological fragile areas. The main objective of the study was to determine the sustainability indicators and create a future development model for District 22 of Tehran. The data was collected by having a review of similar studies and field research on the subject and therefore the effective factors were identified. After accomplished proceedings, the questionnaire was prepared and the results were used in SWOT charts' grading after analyzing at interior and exterior matrix. Ultimately, quantitative strategic planning matrix (QSPM) was performed based on the results and analysis. This process provided a comprehensive model for sustainable urban development as sustainable development urban landscape pattern.

KEYWORDS: District 22; Quantitative strategic planning matrix (QSPM); Strategic management; Strengths weaknesses opportunities and threats (SWOT); Sustainability; Tehran Municipality.

INTRODUCTION

The most commonly accepted definition of sustainable development was presented in Brundtland report. According to the report, sustainable development is known as a kind of development that helps recognizing the needs of the present generation without compromising the ability of future generations (Stratfold *et al.*, 2007). Urban Sustainable development is a dynamic and continuous process in response to changes in economic, environmental, and social pressure (Haughton and Graham, 2004; Padash *et al.*, 2016). Sustainable development seeks to answer five basic needs:

conservation and development, providing the basic needs of human life, social justice, self-determination, and cultural diversity and maintaining the ecological uniqueness (Moah and Kanaroglou, 2009). There has been an emergence of a new 'non-equilibrium paradigm' that incorporates recent knowledge of how ecosystems are structured and function. This new paradigm views ecological system as driven by process rather than end-point and as open systems potentially regulated by external forces (Pickett, *et al.*, 1992; Fiedler, 1997). Morgan (1998); Marsh (1991) and Terweek, (1999) emphasis on the development of the environmental impact assessment (EIA) and National Environmental Policy Act (NEPA) were emphasized in 1969 through international organizations and

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institutions to have macro look and approach in urban development programs. A study entitled; intelligent modeling components of urban growth in a multi-standard integrated geographic spatial science (GIS) was presented at the Third International Conference on Engineering Science and Humanity (IGCEH) in Malaysia, at the Department of Urban Planning and Regional Skudai University by Sabri and Muhamad Ludin (2010). According to study conducted by Sabri and Muhamad Ludin (2010) the emphasis on the complexity of urban systems and the need to organize information layers based on the objectives was announced as an important requirements by the policy makers of urban management. A study entitled evaluation of scenarios through a combination of qualitative improvement of environmental indicators and analytic network process (ANP) was published in 2011 in the Journal Applied Operations Research in Canada for the Department of Housing and Urban Development Department Industrial city of Turin in Italy (Bottero, 2011). The subject is promoting the low valued urban lands which are in terms of the development of the criteria. David (2003) defines strategic management as: the art and science of formulating, implementing and evaluating cross functional decisions that enable an organization to achieve its objectives. The relative similar definition also found in some other references, such as in (Thompson and Strickland, 2001; Thompson et al., 2007). Definition of strategy is conveyed by some experts (David, 2003; Hamel and Prahalad, 1989; Grant, 1991; Prahalad and Gibson, 1997; Yigitcanlar and Dizdaroglu, 2015). Strategic planning is usually an extended tool for regional development and territorial structuring. Cities, districts and states have carried out their strategic plans on the foundation of participation processes, which have driven the later development of their domains (Terrados, et al., 2005). Environmental analysis is an important part of the strategic management planning process. The strengths, weaknesses, opportunities, and threats (SWOT) framework is announced by many researchers as an analytical tool which should be used to classified important environmental indexes both internal and external to the organization (Pickton and Wright, 1998). One of the most important tool in strategy planning is SWOT technique through which comparing information will be discussed. SWOT Model Strategic, is basically a strategic planning tool (Hom Haake, 2001). The ultimate goal of the strategic planning process by the SWOT is to develop and adopt

a proper strategy taking into account the internal and external factors (Kajanus et al., 2004). SWOT analysis is a method based on four main elements of the design strengths, weakness, opportunity, and threat. It has been developed for the analysis of strategic planning. The results of which are used in strategic management (Humphrey, 2005). SWOT tables are provided after obtaining the questionnaire and analyzing the results of internal and external factors.

SWOT analysis matrix, as its name indicates, firstly, the weaknesses and strengths and the factors defined as opportunities and threats are located in a three-by-three matrix in a specified order. Secondly, by compounding weaknesses, strengths, opportunities and threats, new strategies are created and located in the blanks in relation with these components (David, 1999, Dyson, 2004).

The internal and external factors evaluation matrices have been proposed by (David, 1999) in his book "Strategic Management". According to the author book, both tools are used to summarize the data achieved from organization's external and internal environment analyses. The summarized data is evaluated and used for further goals, such as, to build SWOT analysis or IE matrix. Even though, the tools are quite simple, they do the best job possible in recognizing and evaluating the key affecting indexes (David, 1999). A basic tenet of the QSPM is that firms need to systematically assess their external and internal environments, conduct research, carefully evaluate the pros and cons of various alternatives, perform analyses, and then decide upon a particular course of action (David, 1986, David, 2009). The QSPM is planned to define the relevant attractiveness of feasible alternative strategies by checking fundamental key external and internal factors that determine or affect the organization. The QSPM includes of feasible alternative strategies typically resulted from a SWOT analysis. The strategies are illustrated across the top row, with key external and internal factors illustrated down the left column. Any number of strategies can be checked simultaneously in a QSPM. Conceptually, a QSPM defines the relative attractiveness of diverse strategies based on the extent which the alternative strategies will enable the organization to capitalize upon strengths and opportunities, improve upon weaknesses, and avoid or relive external threats (Abratt, 1993; Dibb, 1995). Such an approach creates a systematic outlook to an urban ecology and its structure as an integrated

ecological network of natural and artificial elements with ecological functions is expected. The study has been carried out in District 22 of Tehran in 2015-16.

MATERIALS AND METHODS

Strategic planning in this study was a multi-step process in which one step builds off of the other. In the first step of the process, the key internal and external environmental factors of the firm are analyzed. The achieved data specifies opportunities and threats, as external factors, and strengths and weaknesses as internal factors. Then, in the second step, using SWOT, the firm’s strengths, weaknesses, opportunities and threats are evaluated. Indeed, this is used as a tool for the systematic analysis of internal and external environments of a firm. Terrados *et al.*, 2007 stated this as an effective tool for recognizing the obstacles and drawing lines of future practices. eventually, QSPM matrix is used, which was taken into consideration in (David *et al.*, 2009) as an superior and helpful tool for formulating the strategies based on internal and external evaluations and SWOT analysis. Among strategic alternatives, the relative significant of various facts, roles, tendencies and data may be defined in order to provide the advantages of an important competition for the company. QSPM provides a clear framework for this prioritization process (David *et al.*, 2009). Fig. 1 indicates the process of SWOT.

The region under study includes Tehran Municipality District 22 in Tehran province. District 22 of Tehran Municipality is located between east lengths “10 5 ‘51” and north latitude 51 40 ‘20 “16 ‘32 35 to” 19 ‘57 35. The northern boundary of District 22 of Tehran Municipality is developed to the furthestmost of southern foothills of Alborz up to the altitude of 1800 m and the area of district is about 6200 ha. Out of

this area, about 1300 ha pertains to greenbelt. Altitude of the district toward the sea level is variable and is generally between 1200 and 1500 m. and the altitude slackens gradually toward south up to the point to be approximately unified (Fig. 2).

Internal factor evaluation matrix

Internal factor evaluation (IFE) matrix is a strategy tool, used to evaluate firm’s internal environment and to reveal its strengths as well as weaknesses (David, 1999). Internal factors consist of strengths and weaknesses. In fact, for strengths and weaknesses many factors are defined. These factors are weighted in such a way that the sum of these weighs is equal to one. Then, a score is assigned to each factor. The range of these scores is between 1 and 5, and this indicates the efficacy of current strategies of company in response to aforementioned factors. Score 1, denotes that the reaction is weak, score 2 shows lower than the average, score 3 indicates average, score 4 means higher than the average, and finally score 5 brings out that the reaction has been very high. Thus, there is a score and specific weight for each factor. Once weight is multiplied by score, the factor’s attractiveness can be recognized. If sum of all effective factors is less than 3, it can be concluded that weaknesses are more than strengths. However, the sums more than 3 demonstrate that strengths dominate over weaknesses.

External factor evaluation matrix

External factor evaluation (EFE) matrixes, a strategy tool, used to examine company’s external environment and to identify the available opportunities and threats (David, 1999). External factors encompass opportunities and threats. Accordingly, all the stages are similar to IFE matrix.

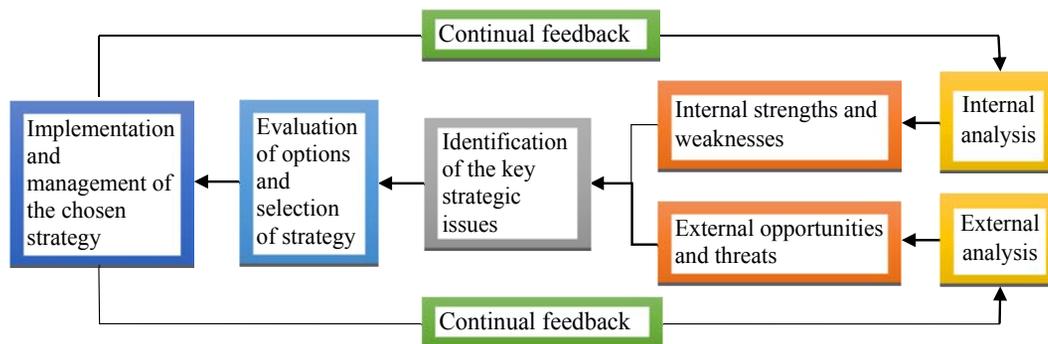


Fig. 1: The process of SWOT (Riston, 2008)

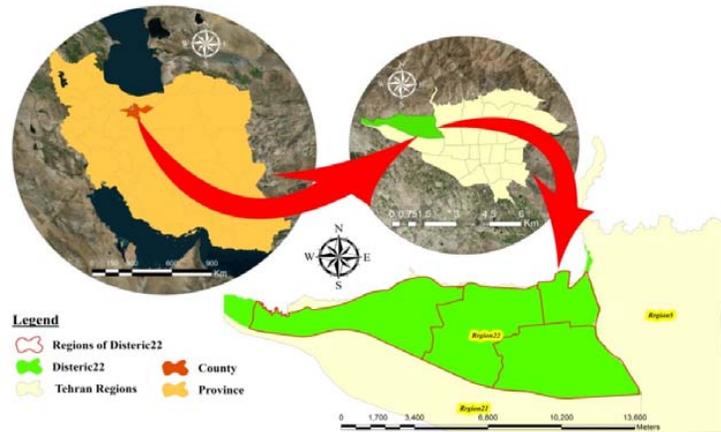


Fig. 2: District 22 of Tehran Municipality

SWOT analysis matrix

SWOT analysis defines what may help the organization to achieve its objectives, and what obstacles must be dominate or minimized to reach the desired results (Singh, 2010). Table 1 indicates SWOT analysis matrix.

Hence, SO strategies (aggressive strategies) utilize the strengths and are sought to take advantage of opportunities. ST Strategies (diversification) use the strengths to avoid threats. WO Strategies (review strategies) take advantage of opportunities to reduce weaknesses and WT Strategies (defensive strategies) reduce vulnerabilities and stay away from threats (Pourahmad et al., 2013).

Quantitative strategic planning matrix (QSPM)

Intuitive judgment is used for quantitative strategic planning matrix. Determination of accumulative effects of each critical internal and external factors can reveal the proportional attractiveness of each strategies. Quadric factors (strength, weaknesses, opportunities and threats) from IFE and EFE matrixes have been extracted to provide a quantitative strategic matrix. Assigned weight is written in the following column. Strategies are written in the first row. For score determination, internal and external factors that have

an important role in success are evaluated. Scores from 1 to 5 are assigned to each factors. If a factor doesn't have any critical role in strategy selection process, it will not receive any score. This method brings up collection of strategies simultaneously. With this matrix, unlimited strategies can be evaluated. Then in the next stage, sum of attractiveness of each strategy is calculated. Therefore, a collection of strategies can be recognized simultaneously (Parsayan and Aarabi, 2004).

Then, using SWOT analysis results, the appropriate strategies were selected using QSPM analysis matrix. The table was then prepared based on the value and weight of the strategies and the operational strategies and solutions were identified. To operationalize the strategies, the results were overlaid on the district's geographical conditions. The findings led to develop a proper conceptual model to identify optimal areas for sustainable development in the district.

The geographical conditions of the region. To analyze the data obtained from the solutions and results, overlay spatial data through GIS was performed. It should be noted overlaid mentioned in the study because of three components: economic, social and environmental. The result of this process model, in order to identify optimal areas for sustainable development in the region.

Table 1. SWOT analysis matrix

| | Strengths | Weaknesses |
|---------------|---|---|
| Opportunities | How do we use these strengths to take advantage of these opportunities? | How do we overcome the weaknesses that prevent us from taking advantage of these opportunities? |
| Threats | How do we use our strengths to reduce the impact of threats? | How do we address the weaknesses that will make these threats a reality? |

RESULTS AND DISCUSSION

In the process of studying District 22, different factors as dimensions, variables and indicators have been considered. District 22 was studied in social, economic, and environmental dimensions. For each of these mentioned dimensions, some variables were considered separately. Social dimension was developed in six variables of general education, recreation, medical care, social, and personal security, continuity of place in partnership and solidarity. The six mentioned variables consist of 41 indexes. Economic dimension was indicated in four variables of consumer goods, employment and income, housing, infrastructure, and transportation facilities and services. These variables can be defined by 28 indicators. The environmental dimension of the area is expressed with three main variables. 17 indicators were considered for environmental variables. Based on the dimensions and variables, District 22 was identified

by questionnaire strengths, weaknesses, opportunities and threats. In the process, 10 cases for the strengths, 9 cases for weaknesses, 14 cases for opportunities and also 10 cases for threats were considered. According to the results of the questionnaires which were analyzed and rated, strengths and weaknesses' factors were pointed for internal matrix and the opportunities and threats' factors were pointed for the external matrix. The results were presented in [Tables 2 and 3](#).

As it can be concluded from the results of [Table 2](#), the sum of the internal factors equals to 3.768 which is evident of dominance of weaknesses over the strengths in the area of study. Moreover, the sum of the coefficients in [Table 3](#), equals to 3.998 which indicates that there are some opportunities and threats in the region. After analyzing the internal and external factors, the overall weight to each factor is shown in [Table 4](#).

The results of internal and external factors' matrix and

Table 2: Internal factor evaluation matrix

| STRENGTHS | | Weight | Score | Weighted score |
|------------------------|---|--------|-------|----------------|
| S1 | Implementation of acceptable environmental standards in District 22 of Tehran | 0.0426 | 5 | 0.213 |
| S2 | Implementation of the most implemented projects in District 22 | 0.0397 | 3 | 0.119 |
| S3 | High culture in the environment and acceptable public collaboration in District 22 | 0.0483 | 4 | 0.193 |
| S4 | Supply 25% of total consuming energy for greenbelt and parks out of solar energy | 0.0511 | 5 | 0.255 |
| S5 | Supply 25% of the total consuming hot water in the parks by solar heater | 0.0454 | 4 | 0.182 |
| S6 | Supply 90% of total consuming energy for lighting bus stops or cells (PV) | 0.0511 | 5 | 0.255 |
| S7 | Geothermal energy extraction project has been performed as a pilot level in District 22 of Tehran | 0.0521 | 3 | 0.156 |
| S8 | Recreational centers as respiratory lung of Tehran | 0.0539 | 5 | 0.270 |
| S9 | Increasing in parks and greenbelt to improve the per capita of greenbelt in District 22 | 0.0551 | 3 | 0.165 |
| S10 | Studying criteria for architecture in controlling maps by the E-service offices | 0.0483 | 2 | 0.097 |
| S11 | Renovation of buildings (compliance with article 19) and reduction of resources' consuming (water, electricity and gas) | 0.0552 | 2 | 0.110 |
| WEAKNESSES | | | | |
| W1 | Dominant economy (buying and selling land and building) and the lack of industrial and manufacturing centers | 0.0454 | 4 | 0.182 |
| W2 | Being away from the commercial shopping centers, lack of BRT, and public transport infrastructure | 0.0483 | 3 | 0.145 |
| W3 | Lack of needs' assessment and feasibility for orientation of residential areas in the form of accumulates | 0.0504 | 4 | 0.202 |
| W4 | High cultural diversity of the living population | 0.0477 | 2 | 0.095 |
| W5 | Lack of assessment and evaluation of environmental impacts arising from the construction of recreational centers | 0.0552 | 5 | 0.276 |
| W6 | Lack of access to sewage collection network | 0.0550 | 4 | 0.220 |
| W7 | Lack of research centers, studies in comparing with recreation centers | 0.0454 | 3 | 0.136 |
| W8 | Disesteem to the management of surface water in the process of land use in the city | 0.0529 | 4 | 0.212 |
| W9 | Weaknesses and deficiencies in the examination, evaluation, registration, and natural environmental auditing | 0.0568 | 5 | 0.284 |
| Total internal factors | | 1 | | 3.76768824 |

Table 3: External factor evaluation matrix

| OPPORTUNITIES | | Weight | Score | Weighted score |
|------------------------|---|--------|-------|----------------|
| O1 | Ideal place to live (greenbelt per capita is above average) and principles of urbanism | 0.0441 | 4 | 0.177 |
| O2 | Pole of healthy life (performing the "1001 cities" project that has all the facilities and greenbelt) | 0.0451 | 4 | 0.180 |
| O3 | Attracting new residents and non-centralization in the central regions by the approach of respiratory lung protection approach | 0.0425 | 2 | 0.085 |
| O4 | Supply 25% of total energy consumption for parks and greenbelt through solar energy | 0.0418 | 5 | 0.209 |
| O5 | Capability of performing modern methods of urbanization due to the abundance of land and work related organs | 0.0450 | 5 | 0.225 |
| O6 | Economic prosperity and migration from neighboring areas because of land's being cheap land and easy transfer of density | 0.0325 | 3 | 0.098 |
| O7 | Possible performance measurement compare with the specified standards (e.g. HSE MS and IMS) | 0.0438 | 4 | 0.175 |
| O8 | Reduction of resource consumption (water, electricity, and gas) due to the new buildings development and comply with the requirements of article 19 | 0.0465 | 5 | 0.232 |
| O9 | Capability of performing and constructing green buildings with the use of new energies | 0.0465 | 4 | 0.186 |
| O10 | Improving the quality of residents' life in terms of amenities and infrastructure | 0.0458 | 4 | 0.183 |
| O11 | Use of modern methods of construction in replacement of the traditional method | 0.0409 | 5 | 0.205 |
| O12 | Paying attention to human changes' pattern in long-term | 0.0465 | 4 | 0.186 |
| O13 | Residents' easy access to parks and greenbelt | 0.0441 | 5 | 0.221 |
| O14 | Possibility to plan and control runoff according to the charts and principles of constructing streets and alleys | 0.0433 | 4 | 0.173 |
| THREATS | | | | |
| T1 | Pollution and bustle in the near future because of indiscriminate selling, density, and high-rise building permits | 0.0424 | 4 | 0.170 |
| T2 | Loss of respiratory lung of Tehran (topographic form, dominant wind direction , high-rise building) | 0.0448 | 5 | 0.224 |
| T3 | Dilemma of drinking water and energy supply or attention to sales due to excessive building density in the future | 0.0395 | 3 | 0.118 |
| T4 | Being flood gate like because of topographic form and land which is relatively clay that lacks proper drainage and sewage | 0.0348 | 3 | 0.105 |
| T5 | Pollution of groundwater areas due to large construction, population, and increasing of population in the future | 0.0411 | 4 | 0.164 |
| T6 | Irreparable damage and logging (development of Resalat highway to access Cheetgar Forest Park) | 0.0458 | 4 | 0.183 |
| T7 | Less immigration from neighboring areas (away from the commercial, government, healthcare, and a lack of public transport) | 0.0325 | 4 | 0.130 |
| T8 | Failure to follow the pattern of integrated urban development and construction diversity | 0.0352 | 3 | 0.106 |
| T9 | Increase in harmful animal species (spread of insects and amphibians in the Lake of Persian Gulf) | 0.0372 | 4 | 0.149 |
| T10 | User interactions generating sound and air pollution with residential, social and cultural | 0.0382 | 3 | 0.114 |
| Total External Factors | | 1 | | 3.998 |

the results of weights aggregation with a focus on the positive and negative points are shown in Table 5. By putting weights on the basis of four internal and external factors, the amount of strategies' tendency was defined and the strategies with aggressive approach (SO) were obtained (Fig. 3).

As it became clear, strategies are settled on the offensive form, so strength factors and opportunities, strategies were adapted, and the needed strategies were prepared with the condition of coordination (Pickton and Wright, 1998).

Table 4: IFEM and EFEM Total weight

| Factors | Weight | Sum |
|---------------|--------|-----|
| Strengths | 0.543 | 1 |
| Weaknesses | 0.457 | |
| Threats | 0.391 | 1 |
| Opportunities | 0.609 | |

Under the influence of each internal and external factor, the attractiveness of each strategy was determined. This attractiveness led to choose the preferred strategy which is consistent with the terms of issue (Table 7).

Table 5: IFEM and EFEM Results with positive and negative approach

| Status | Factors | Weight | Sum |
|----------|---------------|-----------|----------|
| Positive | Strengths | 0.5428282 | 1.151383 |
| | Opportunities | 0.6085553 | |
| Negative | Threats | 0.3914447 | 0.848617 |
| | Weaknesses | 0.4571718 | |

Table 6: SWOT matrix: Derivation of the key strategies in Tehran Municipality District 22

| | | Strength (S) | |
|-------------------|---|--|--|
| | | | |
| Internal factors | | S1 | Implementation of acceptable environmental standards in District 22 of Tehran |
| | | S2 | Implementation of the most implemented projects in District 22 |
| | | S3 | High culture in the environment and acceptable public collaboration in District 22 |
| | | S4 | Supply 25% of total consuming energy for greenbelt and parks out of solar energy |
| | | S5 | Supply 25% of the total consuming hot water in the parks by solar heater |
| | | S6 | Supply 90% of total consuming energy for lighting bus stops or cells (PV) |
| | | S7 | Geothermal energy extraction project has been performed as a pilot level in District 22 of Tehran |
| | | S8 | Recreational centers as respiratory lung of Tehran |
| | | S9 | Increasing in parks and greenbelt to improve the per capita of greenbelt in District 22 |
| | | S10 | Studying criteria for architecture in controlling maps by the E-service offices |
| | | S11 | Renovation of buildings (compliance with article 19) and reduction of resources' consuming (water, electricity and gas) |
| External factors | | | |
| Opportunities (O) | | Strategies on the basis of strength and opportunities factors (SO) | |
| O1 | Ideal place to live (greenbelt per capita is above average) and principles of urbanism | SO1 | District 22 (despite all the injuries and damages) is an opportunity to fix space, frame, and service deficiencies of Tehran metropolis, in the framework of knowledge-based development, recreation, long and medium-term |
| O2 | Pole of healthy life (performing the "1001 cities" project that has all the facilities and greenbelt) | SO2 | Imprinting of District 22 as a function of urban double set requirements and Tehran as coarse of elements with a regional radius deployment to avoiding affiliation of Tehran and Karaj |
| O3 | Attracting new residents and non-centralization in the central regions by the approach of respiratory lung protection approach | SO3 | Performance, and macro-regional elements of District 22 consisting of recreational complexes, resorts and green forest, huge sports complexes, exhibition centers and shopping centers, major technology, and information processing, high technology, scientific parks, application services and gateway elements with come-scale urban |
| O4 | Supply 25% of total energy consumption for parks and greenbelt through solar energy | SO4 | Amendment in programming and planning District 22 based on the mentioned role and function and temporary avoiding of performing the detailed available plan |
| O5 | Capability of performing modern methods of urbanization due to the abundance of land and work related organs | SO5 | District 22 due to the specific properties which are different from the other districts are part of Tehran limits up to establishment of a new management system. |
| O6 | Economic prosperity and migration from neighboring areas because of land's being cheap land and easy transfer of density | SO6 | Population stabilization of district 22 to the extent of population and acquired rights and the allocation of many cross-regional applications, predicted residential complexes by negotiating with the owners |
| O7 | Possible performance measurement compare with the specified standards (eg HSE MS and IMS) | SO7 | The revision of infrastructure planning and the regional highway network of District 22 according to the function and development strategies |
| O8 | Reduction of resource consumption (water, electricity, and gas) due to the new buildings development and comply with the requirements of article 19 | SO8 | Priority in maintaining gardens of Kan, as heritage and natural, historical identity so as to fulfill the strategies and support for the organization of Western Kan River Valley and the north gate of Tehran |
| O9 | Capability of performing and constructing green buildings with the use of new energies | SO9 | Necessity of design and implementation of management system and legal mechanisms, administration tailored to local conditions for the realization of proposed strategies |
| O10 | Improving the quality of residents' life in terms of amenities and infrastructure | | |
| O11 | Use of modern methods of construction in replacement of the traditional method | | |
| O12 | Paying attention to human changes' pattern in long-term | | |
| O13 | Residents' easy access to parks and greenbelt | | |
| O14 | Possibility to plan and control runoff according to the charts and principles of constructing streets and alleys | | |

The most preferred proposed policy that has the most compliance with sustainable development' objectives, will be in the framework of function preparation and macro-elements of District 22 consisting of "recreational complexes, resorts and green forest, huge sports complexes, exhibition and shopping centers, major IT

and processing information technology center, high technology, scientific parks, software services and gateway elements" with scales of meta-city. The result of choosing the mentioned strategy is to create a kind of attraction for residents of other districts and even other cities for using the social welfare services of District 22.

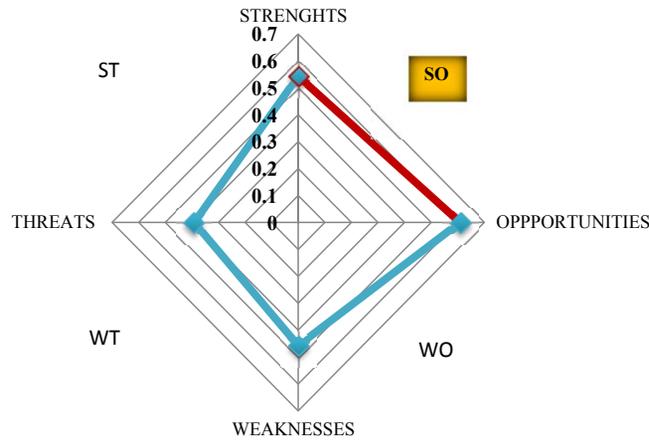


Fig. 3: Strategy tending based on IFEM and EFEM

Table 7: Priorities of the executive strategies

| Strategy attractiveness scores | Strategy | Description of strategy |
|--------------------------------|----------|---|
| 3.031 | SO3 | Performance, and macro-regional elements of District 22 consisting of "recreational complexes, resorts and green forest, huge sports complexes, exhibition centers and shopping centers, major technology, and information processing, high technology, scientific parks, application services and gateway elements " with come-scale urban |
| 2.538 | SO1 | District 22 (despite all the injuries and damages) is an opportunity to fix space, frame, and service deficiencies of Tehran metropolis, in the framework of knowledge-based development, recreation, long and medium-term |
| 2.324 | SO4 | Amendment in programming and planning District 22 based on the mentioned role and function and temporary avoiding of performing the detailed available plan |
| 2.120 | SO6 | Population stabilization of District 22 to the extent of population and acquired rights and the allocation of many cross-regional applications, predicted residential complexes by negotiating with the owners |
| 1.968 | SO2 | Imprinting of District 22 as a function of urban double set requirements and Tehran as coarse of elements with a regional radius deployment to avoiding affiliation of Tehran and Karaj |
| 1.835 | SO5 | District 22 due to the specific properties which are different from the other districts are part of Tehran limits up to establishment of a new management system. |
| 1.700 | SO8 | Priority in maintaining gardens of Kan, as heritage and natural, historical identity so as to fulfill the strategies and support for the organization of Western Kan River Valley and the north gate of Tehran |
| 1.194 | SO7 | The revision of infrastructure planning and the regional highway network of District 22 according to the function and development strategies |
| 0.852 | SO9 | Necessity of design and implementation of management system and legal mechanisms, administration tailored to local conditions for the realization of proposed strategies |

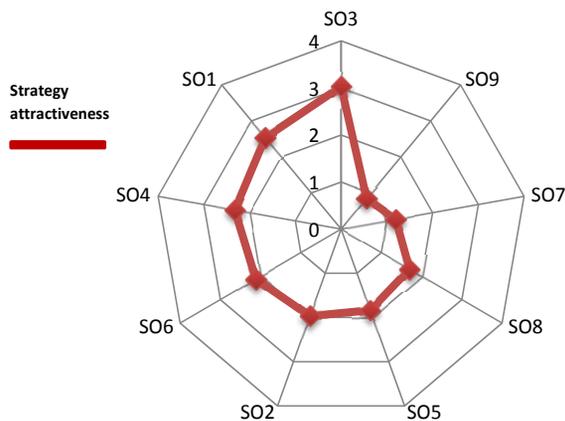


Fig. 4: SWOT Analysis results: Strategy attractiveness

CONCLUSION

It is concluded that achieving sustainable development is the ideal goal of modern cities. In the current study, the main pillars of sustainable development were applied in terms of dimensions to develop urban strategies and goals. Due to the uniqueness of the situation in different districts, priority of choosing strategies is defined based on the urban districts structure. It means that non-compliance with the strategies of the prevailing conditions will result in the expected goals defeat. Based on the study, lack of foresight of possible consequences for the planning of a detailed plan, causes negative effects on the urban management approach of Tehran District 22. The current trend in decision-making and planning of urban managers' futuristic vision, condition predicting and strategies consistent with the characteristics of district, involves diminution. Not only SWOT and QSPM analysis reduce injuries caused by wrong decisions in such a situation, but also will afford the selected strategy to be proved. These strategies cover wide range of policies that should be implemented at a short time. The current outcomes are focused on the necessity of using the proposed model in pending with detailed plans and development.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interests regarding the publication of this manuscript.

ABBREVIATIONS

| | |
|--------------|---|
| <i>ANP</i> | Analytic network process |
| <i>EFE</i> | External factor evaluation |
| <i>EFEM</i> | External factor evaluation matrix |
| <i>EIA</i> | Environmental impact assessment |
| <i>Ha</i> | Hectare |
| <i>IFE</i> | Internal factor evaluation |
| <i>IFEM</i> | Internal factor evaluation matrix |
| <i>IT</i> | Information technology |
| <i>GIS</i> | Geospatial information science |
| <i>m</i> | Meter |
| <i>NEPA</i> | National environmental policy act |
| <i>O</i> | Opportunity |
| <i>QSPM</i> | Quantitative strategic planning matrix |
| <i>S</i> | Strength |
| <i>SDULP</i> | Sustainable development urban landscape pattern |
| <i>SWOT</i> | Strength, weakness, opportunity, threat |
| <i>T</i> | Threat |
| <i>ULP</i> | Urban landscape pattern |
| <i>W</i> | Weakness |

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