

Development of Management Strategies for the Urban Environment with SWOT Approach: A Case Study in Iran

Mohammad Ebrahim Ramazani^{1*}, Mohammad Mosaferi², Sanaz Abedi³

1*. Department of Environmental Engineering, Islamic Azad University, Tabriz Branch, Iran.

Email (CA): Ramazani@iaut.ac.ir

2, 3. Tabriz Health Services Management Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

Received: 17 September 2017 / **Accepted:** 19 October 2017 / **Published:** 30 October 2017

ABSTRACT: The lack of proper strategies for the management of the urban environment has made the relevant organizations face with numerous and complex problems in this regard. The present study was conducted in Tabriz metropolis as one of the major cities in the northwest of Iran. Using Delphi method, strategies for the management of the urban environment including strengths, weaknesses, opportunities, and threats (SWOT), the results obtained could be used as the key strategies for the urban environment management. The analysis of variance and the comparison of the SO, ST, WO, and WT strategies showed that the differences between the groups are not statistically significant suggesting that all the strategies have the same priority. SO strategies and ST strategies had the highest mean scores.. The ANOVA results indicated that there are no significant in-group and inter-group differences between the strategies and all the strategies had the same priority. The results showed that although all the studied urban environment management strategies have the same priorities for improving the present environment conditions of Tabriz, the strength opportunity (SO) strategies are the first priority among other strategies.

Keywords: Urban environment management, SWOT, Municipality, Iran.

INTRODUCTION

Nowadays, keeping and the maintenance of the urban environment is one of the duties of the present and future time and is regarded as one of the most important elements of the human rights. For a sustainable development of the environment, it must be protected as if it is an unlimited phenomenon not only for the lives of present generation but also for the future ones (NAAEE, 2011). In developing countries such as Iran, the sudden increase in the urbanization is considered among the inevitable phenomena such that about 70% of the populations now live in the cities and their surroundings. The increase in the population density and slums has bred a variety of environmental problems and its growing trend is the main concern of researchers in the socio-economic sciences (Ramazani, 2015; Zista Consulting Engineers, 2006). The increase in air pollution, noise pollution, urban waste, the decline in the food security, mounting pollution, deterioration of the urban environment, and finally, the increase in the prevalence of pollution-related diseases are among the challenges posed to human societies

(Lakhan et al., 2009; Shobeir et al., 2014). As a result, the proper management of the cities, especially large ones, and paying due attention to the urban environment is a vital issue.

Existence of threats, opportunities, weaknesses, and strengths (SWOT) in the urban environments has complicated the management of the environment of such settlements. In other words, the affecting internal and external factors relating to the environment of the cities have taken the form of difficulties and crises due to the lack of effective management and strategies (Moharamnejad et al., 2010). Cities need such a strategy to use available opportunities in order to eliminate the weak points, improve the strengths, and seize the opportunities. Similarly, the strengths could be used to avoid threats, leading to a decrease in weaknesses and avoiding the threats. To create such conditions, the development of strategies and indexes for the management of the urban environment is required. It has to be noted that the lack of a pattern for the development of such a management strategy, lack of a full and general view about all factors, parameters,



and affecting factors influencing the urban environment of cities can lead to poor management of the urban environments (Ramazani, 2015).

As environmental management is regarded as the development of proper developmental strategies with environmental powers (Ji Baro, 2001), the most important aim of the urban environmental management is probably the creation of balance and proportionality among the effects caused by urban population on the environment and availability of favorable indexes of the urban environment for the use of such population. The important point in this relationship is that the efficiency of the urban management also heavily depends on the factors like political stability, social integrity, economic prosperity, and skills and motivation of policymakers (Municipalities' Organization, 2004).

The municipalities have the most decisive and noticeable role in the urban management. Among the defined duties of these institutes, urban development and undertaking urban developmental projects are inevitable. On the other hand, these projects can have environmental, economic, and social consequences. The best solution to reduce the negative effects of these projects seems to be an evaluation of the environmental impacts and assessing their related necessary measures. In this way, not only the project is completed, but also the best possible options are selected for having the least negative effect on the environment. Attaining this goal requires developing some strategies for the environmental management by the municipalities.

STUDY AREA

Tabriz as a metropolis in the northwest of Iran and the capital of the East Azerbaijan has a population of 1.5 million people (DUSTM, 2008). The present study was conducted to determine the effective components in the development of the strategies for urban environment management, the present condition of the management and decision making regarding the environment of Tabriz, and beneficiary groups of environment in the study region and their opinions and views as well as analyzing the internal and external factors affecting the management of the urban environment of Tabriz and development of urban environment management strategies. The expected results are as follow:

- Presenting a pattern to the authorities in charge in order to develop strategies for the management of the urban environment such that to make the performances and activities efficient
- Providing a broad view of strategic planning of the urban environmental management

taking into account factors and parameters affecting the cities

- Avoiding inefficient projects and reducing the double costs
- Making laws, rules, and regulations pertaining to the urban environment operational
- Presenting a research-study pattern related to this issue and improving the environments of the cities and reducing the harmful effects of the pollutions and environmental problems
- Improving the present conditions of the urban environment management in the study area

MATERIALS AND METHODS

The present study was conducted in the form of a survey in 2012 with the aim of developing some strategies to manage the urban environment of Tabriz. To attain the goals, the Delphi Method was applied as follows:

In the first step, Tabriz Municipality and its affiliated Urban Services, Urban Planning, Developmental, and Social organizations related to the urban environmental management of Tabriz were determined and selected as the statistical population. By selecting 24 authorities and top experts from these organizations, the prospect, mission, and long-term goals of the management of the urban environment of Tabriz were identified. Next, to analyze different factors affecting the urban environmental management of Tabriz, the main affairs and issues of the urban environmental management were determined and rated in the form of the management of air pollution control, environmental management of water and sewage systems, management of ordinary waste, management of the noise pollution, management of green area, environmental management of the energy, environmental management of the physical development of the city, the management of the environmental groups together with the collective study of the external factors (opportunities and threats) and internal factors (weaknesses and strengths) of the urban environmental management of Tabriz. The third step of the development and evaluation of the strategies was carried out in three stages:

a. Devising the Matrix of the Evaluation of the External and Internal Factors: The matrix of internal factors evaluation is used to assess the weaknesses and strengths of different parts of a system while the matrix the external factors evaluation is used to study the opportunities and threats. (Moharamnejad, 2006; Ramazani, 2015) To prepare the matrixes, the witnessed opinions and judgments of the authorities and experts were used.

After determining the external and internal factors, each factor was normalized between 0 (unimportant) and 1 (very important). To determine the weight of each factor and decide on the factors with high or low importance, the opinions and views of the managers and experts were elicited and then the weight of factors was normalized between 0 and 1 using Mtb software. After normalization, the present condition of each factor was determined by assigning it scores between 1 and 5 (1=weak, 2=lower than moderate, 3=moderate, 4=higher than moderate, and 5=very good), which are called "present condition score." By the present condition, it is meant how the management of the weaknesses, strengths, opportunities, and threats (SWOT) of the urban environmental management is at the present time. If the management system had been attempting to reduce the weaknesses, then it would be given a high score; in contrast, if the weaknesses had not been managed properly, then it would be assigned a low score. Similarly, in the case of using opportunities and threats, higher scores would indicate that the management system had performed well in making use of opportunities and avoiding threats (Ramazani, 2015).

b. Completing and presenting SWOT matrix and determining SO, ST, WO, and WT strategies: SWOT Analysis Method is a useful and simple analytic method, which systematically analyzes each of the factors of the strengths, weaknesses, opportunities, and threats and returns the appropriate strategies. In SWOT, after listing and writing the factors including strengths, weaknesses, opportunities, and threats in their relevant cells by the order of their weighted scores, the desired strategies are obtained from their contact points. Therefore, this matrix generates four categories of SO, ST, WO, and WT strategies (Ramazani, 2015).

In this study, the software of Mtb was used to normalize the coefficients of the matrixes of the internal factors. Moreover, SPSS and Excel software packages were applied for the analysis of the matrixes and prioritizing the strategies.

RESULTS AND DISCUSSION

The management of the urban environment of the Municipality of Tabriz affects all the residents of the city and those who are related directly or indirectly to goods exchange and services. To conduct the present study, we used the participation, and cooperation of the top experts of the following organizations, who had a key role in determining, understanding, evaluation and the analysis of the different affecting factors on the environment of Tabriz and in determining the level of quantitative

importance of strategies. They are the Organizations for the Urban Services, Urban Development, Developmental, Social, Cultural and Artistic, organizations for the Traffic, Parks and Green Space, Bus Service, Subway System, the Organization for the Management of Urban Waste, Healthcare Center, Regional Power Supply, the Organization for Housing, Industries and Mining, General Office of the Protection of the Environment, Natural Resources, Water Supply and Sewerage Companies, Distribution of Oil and Natural Gas Products of East Azerbaijan, the authorities of Environmental Groups, and Professors with the relevant specialty.

The results of evaluating the internal and external factors of the environmental urban management of Tabriz are shown in Tables 1 and 2.

The analysis of variance (ANOVA) and the comparison of the SO, ST, WO, and WT strategies showed that the differences between the groups are not statistically significant ($P=0.949$), suggesting that all the strategies have the same priority. SO strategies with the mean score of 0.4681 and ST strategies with the mean score of 0.4502 had the highest mean scores. The mean scores and standard deviations of the SWOT strategies are shown in Table 3.

Comparing the SO strategies using ANOVA analysis showed that there were not any significant differences between its strategies ($P=0.674$). The results also indicated that SO_2 , SO_6 , and SO_4 had the highest mean scores, in the order of their appearance. SO_{11} strategy had the lowest mean between all SO strategies (Table 4).

The comparison of the ST strategies showed that there were not any meaningful in-group and inter-group differences between the strategies ($P=0.669$) and all of them had the same priority. Among the strategies, ST_{11} and ST_{10} had the highest and ST_2 and ST_5 had the lowest mean scores (Table 5).

The ANOVA results indicated that there are no significant in-group and inter-group differences between the strategies ($P=0.907$) and all the strategies had the same priority. WO_2 and WO_6 strategies have the highest while WO_5 strategy shows the lowest mean scores (Table 6).

Comparing the WT strategies showed that WT_6 and WT_7 have the highest mean scores while the WT_8 strategy has the lowest mean. In addition, the ANOVA results showed that there are no meaningful differences between the in-group and inter-group strategies ($P=0.843$). In other words, all the strategies had the same priority (Table 7).

Table 1: The Evaluation Matrix of External Factors of Urban Environment Management of Tabriz

Factors	Variables	Coefficient	Score	Final Score
Opportunities	The environmental rules and regulations, 5-year developmental plans of Iran and the document of developmental prospect of Iran in 20 years	0.05	3	0.15
	Local and national culture and present religious beliefs and practice related to the environment protection	0.05	2	0.10
	The existence of a council of provincial developmental planning and technical work groups work of environment and sustainable development in the Province and Province air pollution reduction committee in Tabriz	0.06	4	0.24
	The existence of experts and supervisors in Iran and research centers and private scoters (consulting companies and implementation institutes)	0.06	3	0.18
	The progress of science and technology and standards of environment and management of urban management and possibility of knowledge, know-how, and experience between research and using management indexes in the urban environment of other countries with usage of modern exchange networks	0.02	3	0.03
	The international and local treaties, conventions, and protocols in relation to the protection of the environment and sustainable development	0.02	3	0.6
	Enjoyment of government supports and banking credits and budget benefits in the national level in relation to the pollution control of the environment and the development of green space	0.05	4	0.20
	The existence of the international financial recourses and the international support of the environmental activities	0.04	4	0.16
	The existence of the environmental elite and groups and people's participation and their willingness in enjoying proper environment	0.04	2	0.08
	The existence of environmental organization and other supervisory organizations and organs	0.04	2	0.08
External Factors	the existence of sustainable developmental potential in Tabriz	0.03	2	0.06
	Lack of regional and local preparations and lack of environmental evaluation and possibility assessment and capacity of Tabriz and lack of conducting the urban and intra-urban plans with a view of environmental issues and possession of the suitable lands by the urban development investors and test their performance in the change of their land use	0.09	2	0.18
	Lack of integration in the urban management system and lack of proper interaction between organizations in implementing joint projects of the environmental management and lack of infrastructure, equipment, and facilities for studying and determining pollutant factors of the environment	0.08	3	0.27
	Lack of legally passed strategies for the urban environment management and comprehensive plan of urban environmental management and lack of mid-term and long-term management, and influence of numerous power centers and different organizations in decision making, planning, and implementation affairs of the urban environmental management of Tabriz	0.06	5	0.30
	Lack of observance of the environmental regulations and rules in the regulations of the developmental plan of organs and lack of due attention to the passed laws of environment in issuing developmental permits and use and regulatory rules of urbanization limitations in response to the present needs of the municipality and their drawbacks in criminal punishments	0.07	3	0.21
	Lack of due view and belief in the case of negative consequences of slums and political and social profit making in support of slums and adverse influence of immigration in Tabriz	0.06	3	0.18
	The environmental effects of unwanted workshops and industries of the inner city and entrance of the city and demolition of the environment by the present big industries in the protective area f Tabriz and lack of proper performance of them in controlling the environmental pollutants, sewage treatment, management of waste, and development of green area and lack of proper transport of them to the permitted industrial areas	0.1	2	0.20
	Lack of a proper system for the generation, distribution, transport, and recycling of energy and misuse and mismanagement of energy use and substandard related equipment and devices	0.02	2	0.04
	Improper distribution of the service and trading centers in the ten areas of Tabriz and the increase in the trips and traffic in the city center	0.03	2	0.06
	Lack of specialty and awareness of the managers of polluting companies and industries of the issues of the environmental pollution and lack of environmental experts and supervisor in them	0.04	2	0.08
	Total	1	-	2.96

Table 2: The Matrix of Internal Factors Evaluation of Urban Environment Management of Tabriz

Factors	Variables	Coefficient	Score	Final Score
Strengths	The existence of organizational structure and administrations (the Organization of the Management of Waste, the Organization of Parks <i>etc.</i>), plans to improve environmental management, and control of pollutions in the urban environmental management	0.06	3	0.18
	Educated human resources in the executive levels and the existence of top supervisors and their level of knowledge and awareness of the environment in the related fields and a feeling of responsibility toward, interest in, and valuing the components of the environment, and positive motif toward the improvement of the present management of the urban environment	0.05	2	0.1
	The existence of related educational programs, courses, classes, workshops on issues of the environment for the staff of the municipality and the public	0.04	2	0.08
	The plans for energy use management and paying attention to the pattern of optimizing the energy use in the organizations and offices of the municipality of Tabriz (use of energy saving lights, double-glazing windows, tuning up the heating systems, <i>etc.</i>)	0.03	4	0.12
	The existence of necessary software and hardware like libraries, computer systems, internet, and the results of the previous research	0.01	4	0.04
	Vehicles and machinery and hardware of management of waste and transportation, <i>etc.</i> available in the municipality	0.03	5	0.15
	The improvement plan of the public transportation (the project of subway system and BRT) and existence of safety inspection centers	0.03	4	0.12
	The existence of the possibility and funding for the participation and cooperation of the research centers, academics with the environmental experts in the municipality, and research center of Islamic Council of Tabriz	0.04	4	0.16
Internal Factors	Lack of an integrated management system for the environmental management in Tabriz Municipality and lack of an environmental workgroup in the Islamic Council of Tabriz	0.08	4	0.32
	Quantity and quality of the green space and changing the land use of green space to other land uses	0.05	3	0.15
	Lack of comprehensive and long-term strategies and plans for the affairs of the environmental management in Tabriz Municipality and lack of related local regulations and standards and lack of executive guarantee of the present regulations	0.06	4	0.24
	Lack of permanent revenue for funding the costs of the environmental management and dependence of incomes in Tabriz Municipality on unstable incomes from changing land uses in the 5th article of commission and sales of density and success of the 100th article of commission about the construction violations	0.1	3	0.3
	Poor required technologies and equipment for urban environment improvement (including sewage collection and treatment systems, management of waste, and management of the quality of air and sound, limitations of the public transportation system, and inefficiency of the smart control of the traffic <i>etc.</i>)	0.09	2	0.18
	Limitation problems of the public transportation system and lack of smart traffic control, <i>etc.</i>	0.04	4	0.16
	Lack of educational programs of the cultural and social organizations for improving the present conditions and attracting public participation for the improvement of the urban environment and expansion of the active non-governmental environmentalist groups	0.08	3	0.24
	Lack of statistics and documents of the present performances of the management of the environment (air pollution, waste management, noise pollution, water supply management and consumption and sewage treatment, evaluation of the ability of the environment, and determining major land use, <i>etc.</i>) and lack of updated technical information in the management of the urban environment and failing to publishing them to the public	0.06	2	0.12
	Lack of serious law enforcement of violators and their criminal punishment of the rules and regulations and their illegal activities in relation to the environment and violators of the environmental damage	0.01	2	0.02
	Lack of environmental experts and supervisors in the responsible organizations for the affairs of the urban management of Tabriz and lack of employment of the environmental experts in the organizations and/or subsystems of the municipality	0.03	3	0.09
	Lack of the regulations for the cooperation of the municipality with the public groups of environment in the improvement of urban environment and lack of required public participation in the improvement urban management and lack of educational plans for them	0.05	2	0.1
	Lack of assessment of the environmental impact of the projects and improper implementations of the rules of settlements and lack of basic and cultural and environmental implementations especially in slums of Tabriz	0.06	2	0.12
Total		1	-	2.99

Table 3: Mean Scores, Standard Deviations, and the Lowest and Highest Scores of the SWOT Strategies of the Management of the Tabriz Urban Environment

Type of Strategy	Mean	Standard Deviation	Lowest	Highest
SO	0.4681	0.34258	0.02	2.40
ST	0.4507	0.34258	0.02	2.40
WO	0.4336	0.30190	0.02	1.28
WT	0.4493	0.29951	0.04	1.80
Total	0.4508	0.324223	0.02	2.40

Table 4: Mean Scores, Standard Deviations, and the Lowest and Highest Scores of the SO Strategies of the Management of Tabriz Urban Environment

Strategy	Title of Strategy	No.	Mean	Standard Deviation	Lowest	Highest
SO1	Enforcing the environmental rules and regulation including air pollution, green space, urban development, <i>etc.</i> and planning in accordance with the national laws and international treaties	39	0.4813	0.3711	0.08	1.80
SO2	Preparing comprehensive and detailed plans and land use with environmental considerations	40	0.5223	0.3210	0.04	1.20
SO3	Calling in consulting engineers and institutes of private sector and local educated human resources in implementing different plans of Tabriz with environmental considerations	40	0.4738	0.4267	0.04	1.80
SO4	Determining the indexes of the urban environment management in the sectors of urbanization and urban development	40	0.5317	0.4267	0.03	2.40
SO5	Creating a necessary structure for using the communications systems and internet facilities in urban trading and services and proper technologies in Tabriz in order to the reduction of the urban environmental pollutants and management of the wastes using international trading	40	0.4845	0.3133	0.04	1.28
SO6	The promotion of the knowledge and awareness of the organizations of the Municipality in management of the urban environment of Tabriz	40	0.5298	0.3505	0.06	1.80
SO7	Making use of the potential public participation and training them through TV programs, holding fairs, and using power and potential of the environmentalist groups for the improvement of the present condition of the urban environment with supporting them and considering them as social capital	40	0.4443	0.3128	0.06	1.28
SO8	Cooperation with universities, research centers, and consulting engineers, exchanging know-how of the management of the urban environment with the advanced countries, and using international facilities in accordance with the treaties and conventions	40	0.4205	0.4049	0.02	2.40
SO9	The expansion of the evaluation, measurement of the quality and balance of the environmental pollution and its control in Tabriz	40	0.4460	0.2919	0.04	1.20
SO10	Preparation and approval of the optimal and standard per capita green space with the environmental considerations and completing environmental projects such as Great Park of Tabriz and Green Belt of Tabriz, <i>etc.</i>	40	0.4203	0.3101	0.04	1.20
SO11	Use of religious beliefs and practice for the protection of the urban environment	40	0.3950	0.2694	0.04	1.20
Total		440	0.4691	0.3426	0.02	2.40

Table 5: Mean Scores, Standard Deviations, and the Lowest and Highest Scores of the ST Strategies for the Urban Management Environment of Tabriz

Strategy	Title of Strategy	No.	Mean	Standard Deviation	Lowest	Highest
ST1	The reduction of the waste and its separation from the generation sites and gradual elimination of the present methods and trends of the waste collection of Tabriz and production of compost out of them and their recycling	40	0.4155	0.2975	0.04	1.20
ST2	The support and expansion of the agricultural and industrial production units without environmental pollution in the surrounding areas of the city the developing plan of transferring big industries from Tabriz area	40	0.3915	0.27216	0.04	1.20
ST3	The expansion of the necessary service and trading centers in different parts of the city and benefiting from proper scattering of these land use to reduce traffic congestions and to improve the present conditions of the urban environment	40	0.4363	0.30843	0.04	1.28
ST4	Proper locating and placing the polluting and problem-making industries of Tabriz and their transfer	40	0.4210	0.3136	0.06	1.20
ST5	Supporting the expansion of services and facilities in villages and making the villagers interested to stay in villages to reduce the rate of immigration to Tabriz and development of the plan of proper housing of Tabriz slums to reduce the related problems and issues	40	0.3790	0.2937	0.03	1.20
ST6	Drawing the attention of the representatives of people in the parliament for necessary budgeting for the projects related to the management of the urban environment of Tabriz and proper housing and avoiding the expansion of slums and illegal constructions	40	0.4240	0.2814	0.04	1.20
ST7	Attracting the participation of cultural organizations, TV, and educational center in the management of the urban environment and the improvement of the information systems and providing electronic services	40	0.4442	0.2909	0.02	1.28
ST8	Imposing limitations on changing the agricultural lands in the protected area and around Tabriz and preventing the ownership of lands with the land use of green space, agricultural, and natural resources	40	0.4338	0.3485	0.04	1.20
ST9	Planning, passing, and implementing joint and intra-organization projects of the environmental management (air pollution, water pollution, etc.)	40	0.5085	0.3471	0.06	1.28
ST10	Providing facilities and infrastructure for the participation of the public and activities of environmentalist groups and private companies in relation to the urban environment management	40	0.5115	0.3759	0.06	1.80
ST11	Creating an integrated system of urban environment management of Tabriz	40	0.5265	0.3965	0.04	1.80
ST12	Implementing the plans of areal and regional logistics	40	0.5035	0.4591	0.06	2.40
ST13	Using updated technologies and the expansion of the using the modern equipment to improve the urban environment management of Tabriz with the cooperation of international companies and institutions and local human resources	40	0.4630	0.4201	0.04	2.40
Total		520	0.4507	0.34258	0.02	2.40

Table 6: Mean Scores, Standard Deviations, and the Lowest and Highest Scores of the WO Strategies for the Urban Environment Management of Tabriz

Strategy	Title of Strategy	No.	Mean	Standard Deviation	Lowest	Highest
WO1	Developing an integrated system of the urban environment management in Tabriz Municipality and evaluation of environmental impacts of projects	40	0.4098	0.288	0.06	1.28
WO2	Creating an organizational structure and quantitative and qualitative increase in the skilled human resources for the environmental management	40	0.476	0.3158	0.04	1.28
WO3	Developing a supervisory system and using supervision tools for the proper and legal action against the activities of polluting industries of Tabriz and passing laws for the criminal charges for the offenders	40	0.441	0.31121	0.08	1.20
WO4	Determining sustainable resources for the covering the costs of the Tabriz Municipality to prevent the change of land uses in accordance with the present rules and regulations and attracting the participation of the clerics, non-governmental environmentalist groups, experts, and other social groups	40	0.454	0.34213	0.04	1.20
WO5	Developing an information bank and using the results of the present studies and research and attracting the cooperation of the educational, research centers, and expansion of the participation of the citizens to improve the present environmental condition of Tabriz	40	0.383	0.2637	0.02	1.20
WO6	Devising and implementing the local rules, standards, and regulations to control environmental pollution and creating an environmental section in the polluting industries	40	0.383	0.2637	0.02	1.20
WO7	Developing and employing equipment for measuring the quality of water and sewage in the polluting industries and their continuous monitoring by trusted laboratories	40	0.411	0.2908	0.06	1.20
WO8	Education and creating the culture about the urban environment issues for the social groups of Tabriz	40	0.431	0.2842	0.04	1.20
WO9	Implementing the plan of needs analysis for the needed green space in different areas of the Municipality and ownership of the required lands	40	0.405	0.3046	0.04	1.20
WO10	Improving the efficiency and management of energy in the public transportation of the city (by limiting the vehicles produced in Iran with high fuel consumption and low efficiency etc.)	40	0.462	0.2800	0.04	1.20
Total		400	0.434	0.30190	0.02	1.28

Table 7: Mean Scores, Standard Deviations, and the Lowest and Highest Scores of the WT Strategies of the Management of Tabriz Urban Environment

Strategy	Title of Strategy	No.	Mean	Standard Deviation	Lowest	Highest
WT1	Proposing the passage of effective laws in order to solve the problems of the Tabriz environmental urban management and developing a necessary supervisory and control system for the implementation of affairs of the urban environment management	40	0.4622	0.3063	0.06	1.20
WT2	Creating permanent income resources for the Municipality, giving variety to these income resources to avoid the negative effects of lack of funds, and prevent the sales of density	40	0.4745	0.3226	0.04	1.28
WT3	Preventing the implementation of the projects without approved environmental impact reports and use of economic means to reduce the pollution by the polluting industries, determining the proper locations for the urban services based on the needs, paying attention to the linear pattern of Tabriz, incorporating it in the multi-central patterns of the city centers, and making the facilities and services various for the proper and ease of access	40	0.4435	0.2952	0.06	1.20
WT4	Taking legal actions against air-polluting organizations and companies of the city, preventing imposing subjective opinions, and tackling the issues of urban environment management based on the opinions of the specialists and in accordance with the rules and regulations, standards, and local indexes	40	0.4338	0.2977	0.08	1.80
WT5	Developing an infrastructure for the cooperation of universities and research centers in the research and educational affairs of the environment	40	0.4503	0.3273	0.04	1.80
WT6	Effective presence of the environmental experts of the Islamic Council of the city and research centers of the Islamic Council of Tabriz to propose plans, ideas, approval, and implementation of the plans for the urban environment management and presenting specialized opinions and scientific documentation in decision-making related to the affairs of the management of the urban environment	40	0.4935	0.3359	0.04	1.28
WT7	Evaluation of the performance of the managers of the Tabriz Municipality according to conditions of the indexes of the management of the environment in the related organizations and their effectiveness on budgeting	40	0.4903	0.2908	0.06	1.20
WT8	Planning a system for reusing the sewage, saline, and salt water and developing a plan for the gray water as a new source of water supply	40	0.3787	0.2774	0.04	1.20
WT9	Limiting the administrative bureaucracy and improving the urban road systems with the aim of the expansion of the inner city relations and electronic relations establishing electronic government	40	0.4123	0.2779	0.04	1.08
WT10	The promotion of the public knowledge and awareness on the management of the urban environment by developing and implementing educational programs, public participation, informing, and advising, paying more attention of the city's authorities regarding the public requirements, and increasing their relationship with the citizens and activating non-governmental environmentalist institutions	40	0.4540	0.2717	0.06	1.20
Total		400	0.4493	0.29951	0.04	1.80

CONCLUSION

The present study was carried out with aim of developing some strategies for the environmental urban management of Tabriz. The scores of internal factors (strengths and weaknesses) and external factors (opportunities and threats) were yielded as 2.99 and 2.96, respectively, suggesting many weaknesses in urban environment management and lack of a good performance regarding the use of opportunities and dealing with the threats. Threats and opportunities (TO) mean the present events and trends outside the organization while strengths and weaknesses are the activities inside the organization, which can be greatly useful or harmful to the organization (Municipalities' Organization, 2004). The underlying principle of the strategic management is that the organizations must strive for using external opportunities and avoiding the negative effects of external threats by reducing them.

Moreover, by using the strengths and reduction of the weaknesses, they must seek for the development of necessary strategies.

The comparison of the mean scores of the SO, ST, WO, and WT strategies showed that there are no significant differences between the groups and all the strategies have the same level of priority. Among the strategies, SO strategies with an average of 0.4681 and ST with an average of 0.4502 had the highest means. Meanwhile, the results indicated that among the strategies of strengths and opportunities (SO), determining the indexes of the management of the urban environment in the urbanization and urban development sectors has the highest priority and promotion of the knowledge and awareness of the staff of the municipality regarding the management of the urban environment had the second high priority.

Prioritizing the strategies of strengths and threats (ST) revealed that developing integrative systems of the management of the environment and also providing wherewithal and creating a suitable infrastructure for the public participation and activities of environmentalist groups and private companies in relation to the management of the urban environment had the highest priorities. The findings of the present study showed that the development of an organizational structure and an increase in skilled human resources for the management of the urban environment have the highest priority in the development of strategies for weaknesses and opportunities (WO).

REFERENCES

Department of Urban Servitude in Tabriz Municipality (2008) The performance report of urban servitude vice-presidency in 2007, Tabriz Municipality.

Ji Baro K (2001) Principles and methods of environmental management, translated by Androodi M. Publication of Kangareh.

Lakhan VC, Parizanganeh AH, Yazdani (2009) Sustainability Prospects in Iran with Environmental Education,

5th World Environmental Education Congress. World Environmental Education Congresses, Montreal, PQ, Canada. P. 8

Moharamnejad N (2006) the Environmental Management and Planning, Moallef.

Moharamnejad N, Badrifar M, Majedi H, Feghi-farahmand N, Ramazani ME (2010) Analysis Model of Air Quality Control Management Strategies in Tabriz JFAE Vol 8. (2).

Municipalities' Organization, Planning and urban Management (2004) Theoretical issues, Empirical challenges, Publication of Municipalities' Organization, Second edition. Tehran.

North American Association for Environmental Education (2011) Excellence in Environmental Education, Guidelines for Learning K-12, Executive Summary and Self-Assessment Tool. Washington, D.C.Tehran: Payame Noor University.

Ramazani ME (2015) Urban Management Strategic planning of sustainable development and environmental management of cities

Ramazani ME, Faraji S (2009) The study of method of waste collection and transportation in Tabriz and suggestions to improve the present condition, A research project of Islamic Azad University branch Tabriz

Shobeir M, Meiboudi H, Saradipour A (2014) Study of Development Strategies for Environmental Education in Urban Management with SWOT Model.

Zista Consulting Engineers (2006) Tabriz Detailed Plan, The Organization for Urbanization and Housing in East Azerbaijan.