Research Article
The Role of Strategic Factors in Waste Management in Damavand County

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Abstract: In this study, due to the importance of the problem of waste separation from the origin in Damavand County, research on how to collect and dispose of wastes was collected on March 22, 2017 and with information obtained during six months, questionnaires were prepared in four categories of Strengths, Weaknesses, Opportunities and Threats. Then, the impact factors on the achievement of identification of challenges and barriers and the separation of waste from the source in Damavand County have been identified. These influential factors for achieving the desired goal, according to the theoretical framework, are experts in the area of wastes and the questionnaires were completed by them. After data collection, the number of responses obtained by each index in the deterministic numbers and the result on the number of respondents of each index were identified and prioritized. According to the analysis matrix of internal and external factors in the waste state of the county, since scores obtained from internal and external factors are 2.45 and 2.15. In accordance with the principles of this matrix, the strategic location of Damavand County is placed on the defensive region because of weaknesses and threats, respectively. For the first time, the research has examined the problems and obstacles of waste collection in Damavand County with a scientific method.

Keywords: Categories, damavand, matrix, separation, waste

INTRODUCTION

Today, attention to the issue of environmental pollution caused by waste and dangerous consequences of the non-principled ward off methods caused by the arrival of leachate to soil and groundwater resources has been made. Proper management is provided for garbage collection and separation from the source in developed countries, but there is still inadequate attention to this important issue in developing countries including Iran, unfortunately and the waste in most urban and even rural areas is problematic. In general, in terms of health engineering, solid waste is not a common issue, but an environmental problem and unsanitary disposal are markedly affecting the spread of disease. The ugly masses of waste, open channels filled with waste and waste-filled by waste and other waste, all indicate environmental pollution in many cities and in the developing world. The inhabitants of these cities are exposed to borne pathogens by pathogens and parasite present in these wastes and their hazards and hazards (Abdoli *et al*., 2010). Waste burial must be carried out in the health and with regard to possible costs; to less attention to health and environmental problems. Even in this case, there are issues such as lack of location, dissatisfaction with residents close to the site, the gases resulting from the accumulation of waste (Mohammadi and Sanaei, 2009). Waste burial in particular parts of computers causes the diffusion of toxic substances and oxides into the air. Owing to this, the recycling of computers will take serious risks from environmental and occupational aspects. Especially when the recycling industry does not meet personnel safety issues due to its low profitability (Louie, 2005). Economic and health losses due to lack of solid waste control in urban areas, increasing urban waste especially in large cities and spending high costs in order to collect and dispose of them, makes it necessary to remove effective and essential steps in solid waste control. there is no doubt that the dispersion of waste in the city level in different forms, such as temporary locations, garbage bags, evacuation in the streets is one of the causes of population growth of insects and vermin in urban environments, especially in the warm season. The collection, transportation and disposal of waste substances, if not compliance with the individual

hygiene of the workers, the lack of regular cleaning of the equipment and their Spraying, the absence of masks, gloves, etc., will cause the disease to be transmitted to the neighboring homes and the families of the station 's employees (Fataei, 2006). Attention to the collection and disposal of solid wastes in today society, due to the quantity and quality of materials, the uncontrolled expansion of cities, restrictions on public services in large cities and lack of suitable technologies, has created specific problems that can be resolved only through the coordination of science and experiment within the framework of a proper management. In terms of its oldness, structure and type of residential context, the city of Damavand have been built mainly without planning and necessity of design of solid waste management system, especially arid wastes. Also, the staggering costs of collection, transfer and disposal of waste and lack of knowledge about the correct way of garbage segregation and the lack of knowledge about the consequences of waste pollution in life has caused many problems. Waste collection day-to-the day is a serious threat to the environment, community health and groundwater pollution. Separation of waste from the origin seems to reduce environmental pollution and help improve strategies in this regard. The first step in strategic planning stages is to determine the objectives and tasks of the organization and then it can be made through one of the tools of strategic formulation to analyze the internal and external environments and secondly the decisions that make the organization equal to environmental opportunities (Amani, 2010). Today, processing and recycling as well as having a fixed position in waste management systems is continuous from the beginning until the end of these systems and the dominant spirit on these systems is processed and recycled (Abdoli, 2008). The lack of rules and regulations pertaining to waste materials is an unforgivable sin in most countries in the world and is punishable by local police and state court (Omrani, 2010).

LITERATURE REVIEW

The history of the transformation in urban solid waste management in industrialized countries dates back to the 1930s. At that time, in addition to the collection and transportation of trash out of the cities, the landfill was buried and covered with dirt. Until the 1970s, waste was seen as a waste material that had to be withdrawn from the urban environment. After the Arab oil crisis in 1970 and the Summit in Stockholm, which was dedicated to the issue of the environment, the economy and energy consumption and recycling of materials from urban waste were considered to be the focus of industrial nations and international forums. Therefore, recycling found a stable place in solid waste

management systems. With time and progress in thought and recycling of material, processing began to be added to these systems. Due to environmental issues such as waste engineering, this issue is now considered as a very important economic issue, only its recycling operation, in addition to gathering and disposal of revolutionary waste. Since 1975, due to the spread of severe and solid waste laws since 1975 due to the spread of severe diseases such as cancer and stroke have a reason for this. Interference with many of the hazardous and dangerous waste materials which are currently used in various industries and residences has caused the collection problems and waste disposal problems. There are 48,000 chemicals in urban waste and cancer verification of 500 types of substances that range in a variety of environmental problems. In terms of its antiquity, structure and type of residential areas, the city of Damavand has been built mainly without planning and the necessity of designing the solid waste management system, especially arid wastes. In addition, the cost of waste collection, disposal of waste and lack of knowledge about the correct way of garbage separation and the lack of knowledge about the consequences of garbage in life have caused many problems. These areas have a serious threat to the environment, community health and aquifer contamination. Also, the city of Damavand in terms of its size and enjoying nice climate especially in summer and spring season, increase in the number of populations and the existence of villas and second homes of people who spend their vacations in this city has caused the waste generation to be increased and due to the lack of a comprehensive and standardized management system, it has been difficult to remove wastes since last year. Considering the existence of different types of diseases regarding no hygienic recycling of the buckets and garbage dump centers, it is necessary to recognize the existing problems and obstacles to reducing the pollution caused by the wastes by presenting correct and new patterns of management in accordance with residential and cultural context. This design pattern should be presented and designed to attract more citizens, especially women and to increase the accumulation of dry wastes. By careful understanding of the amount of waste generation and the collection method, it is possible to provide solutions for the separation and reduction of wastes in the source of waste. In this research, considering the unsuitable status of disposal of wastes in this city as well as the pollution created in the environment, considering the high amount of waste generation, the existing challenges regarding the lack of correct management in the separation and gathering of wastes and then strategies to reduce the damaging effects of waste pollution will be provided.
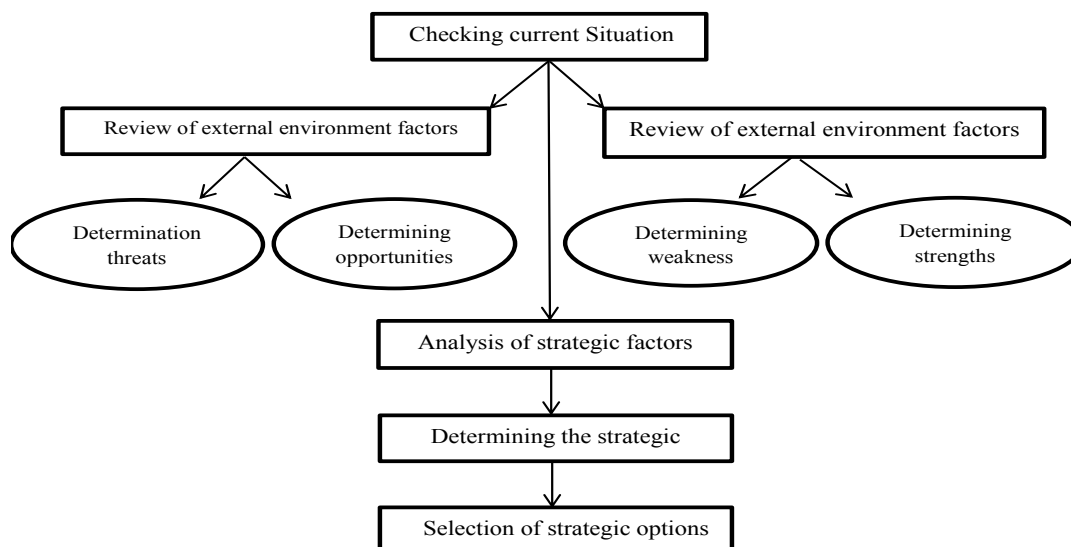
Fig. 1: Research process

MATERIALS AND METHODS

In this research, we first examine and identify environmental factors including the internal environment and the external environment management of Damavand county to recognize all the variables in the internal environment and the external environment of the waste management of the county through questionnaire completion, reviews of documents, waste management plans, interviews with managers and field management experts and field visits to waste management. After identifying internal and external factors, a list of strengths, weaknesses, opportunities and threats related to waste management was determined and then analyzed and evaluated internal and external factors using the assessment matrix (Omrani, 2010). SWOT matrix is one of the tools of strategic planning; using the evaluation and analysis of the internal and external situation for use and help to identify the strengths and weaknesses of an organization. It was first introduced in 1950 by two graduates of Harvard Business School, George Albert Smith and Roland Christensen. SWOT is four words of strengths, weaknesses, opportunities and threats. The first step in the strategic planning stages is to determine the mission, objectives and tasks of the organization and then it can be designed for the organization through the SWOT analysis, which is one of the tools of strategy formulation, fits its environment (Amani, 2010). Using this analysis, it is possible to first analyze the internal and external environments and secondly, to make strategic decisions that enable the organization to adapt to environmental opportunities (Fig. 1).

The provision of the matrixes of internal and external factors involves the following steps:

First, the strengths and weaknesses are written and explained to these factors. From zero (no matter) to one (very important). The coefficient given to each factor indicates its relative importance in success and is given a score of one through four. The scores of a significant weakness score two, the score of three indicate the strength and score of four indicate the high strength of the factor. In order to determine the final grade of each factor, the coefficient of each factor is multiplied by its score. The final score of each element is determined and the final score of the organization is determined. In the evaluation matrix, if the final score is greater than 2.5 (mean one to four), the strengths are greater than the weak points and if the final score is less than 5/5, the strengths are less than weaker points (Omrani *et al.*, 2006; Karbasi and Abbaspoor, 2016). In this study, normalization is used for weighting, so that the highest score in the matrix has been considered and then normalized to normalize the coefficients. In this case, the sum of the normalized weight coefficients is equal to one. The normalization procedure of the coefficients is as follows:

Normalized weighting Coefficient for Relevant factor:

$$d = 1, 2. . ., 5d_n \quad d_n = \frac{d}{\sum_i^n I \times (d_{max})} \tag{1}$$

$$I \frac{d}{d_{max}} \tag{2}$$

I : Identity matrix
d : Available factors

RESULTS AND DISCUSSION

After identifying internal and external factors, the strengths, weaknesses, opportunities and threats of waste segregation are determined and are considered in the matrix of internal and external factors for each of

Table 1: Definition of verbal variables

Verbal variables	Triangular phase number	Fixed phase number
Very high	1,25,0	9375
High	75,15,15	75
Medium	5,25,25	5
Less	25,15,15	25
Very less	0,0,25	625

these factors in terms of importance that each of these factors are in waste segregation, so that the highest score in the matrix of internal factors and in the matrix elements of the number five or the same importance are very important. In the next stage, each factor is assigned a weight coefficient between zero (no matter) to one (very important). Here we are used to normalizing for weighting. The coefficients given to each agent expressed its relative importance in success, regardless of whether the factor considered as an organization's strengths and weaknesses should be the highest in the organization's performance. The status quo is then determined by the score between one and four (1 = weak, 2 = medium, 3 = higher than average, 4 = very good) where the status score is called. If the organization's management is in the peak of weakness or threats, it gives a high score for the weakness or the threat to itself and the contrary, if the strengths and opportunities are not well managed, scores low. The score of each factor, therefore, calculated each factor in order to score each tier of the organization's internal and external factors in the normalized weight multiplied by a new pillar. If this is from 2.5, this means that the waste management activities of Damavand County are weak in terms of intrinsic factors. It also confirms that the urban management of Damavand County does not work well on the use of opportunities and confronting tourist threats. In this stage, using the most important strengths and weaknesses (internal factors) and opportunities and threats (external factors) from the perspective of experts and experts in the municipality and the environment, identify and then normalize the importance of weight factors, which is the most important feature of the internal and external environment of Damavand County in Table 1.

After data collection, through the questionnaire, the number of responses obtained each index in deterministic numbers, result on the number of respondents (18 experts), the weight of each indicator is obtained. By dividing the weight of each index on the weight of the indicators, the normalized weight is achieved (Table 2 and 3).

After gathering data, the weights of each index are obtained by multiplying the number of responses obtained by each factor and the index in deterministic numbers and weight of each index is achieved by dividing the result among the number of respondents. Oslo by dividing the weight of the indicators, the normalized weight is achieved. For example, weight or factor score of education and R & D expenditure were calculated:

$$\text{Weight} = \frac{0 \times 0.0625 + 4 \times 0.25 + 3 \times 0.5 + 9 \times 0.75 + 2 \times 0.9375}{18} = 0.6180 \qquad (3)$$

Table 2: Results of survey responses related to internal factors

Internal factors	Very high	High	Medium	Less	Very less
The municipality 's serious determination to solve waste problems and cooperate with other organs in this field	5	10	3	0	0
Creation of the Waste Management Authority in municipality establishment structure	5	6	5	2	0
beginning of separation strategy from a source in storage and collection management of city wastes	3	5	7	2	1
reduce the tenure of waste management administration in the implementation of waste management activities	0	5	9	3	1
suitable scientific potentials to improve the level of education and information Waste management	4	3	7	4	0
The presence of environmentalists and experienced experts at the Waste Management Authority	1	3	8	5	1
Areas of cooperation between research centers and universities	1	4	7	5	1
Using MIS system and statistics and data analysis	0	6	5	6	2
Education and incubate Collaboration in building a culture	1	3	9	2	3
preparation of software and hardware features	0	0	8	8	2
The cost of the waste separation schemes and the loss of relevant jobs	1	8	6	2	1
Cost of education and R & D (research and development)	2	9	3	4	0
Non - conducting studies of landfill sites in Damavand in accordance with the administrative regulations of the country's waste management law	0	5	11	2	0
lack of comprehensive data and quantitative and qualitative information of electronic wastes	0	7	6	5	0
Job insecurity among Educators and Exhibitors	1	5	7	3	2
Insufficient coverage of tanks and bags of dried waste to citizens	0	2	13	2	1
Frequent changes in the management system and related regulations and organizational chart	0	5	8	5	0
Lack of people cooperation and participation	0	5	10	3	0
Lack of occupational and mental health planning of staff and contractors	0	3	11	4	0
Lack of support to provide facilities, equipment and financial resources (approved budget) for waste management	1	4	8	5	0

Table 3: Results of survey responses related to external factors

External factors	Very high	High	Medium	Less	Very less
Creating jobs and jobs	1	5	6	6	0
Manufacturing industrial units Orientation to promote environmental regulation	0	1	8	9	0
Creation and strengthening of public institutions in line with the implementation of waste management goals	0	1	9	6	2
Increasing people's trust in urban management practices	0	3	13	2	0
Increasing the degree of purity of waste and the production of better compost	0	3	8	7	0
Pollution reduction caused by the production of waste and environment protection	2	8	4	4	0
Save on waste collection and transit costs	0	11	5	2	0
Promoting citizenship culture	2	8	6	1	1
Increasing the budget and enhancing the performance of urban services as a result of a reduction in waste management costs	2	6	5	4	1
Increase social awareness focuses on environmental issues	0	9	7	2	0
The Economic crisis in the body of urban communities in the region	0	6	10	2	0
Lack of cooperation of all organs, public education and, institutions	1	5	9	3	0
Time on the implementation of ways to achieve goals	1	11	6	0	0
Public making cultural problems	2	11	5	4	0
lack of solid waste management Instructions	0	7	8	3	0
Probability of contaminated goods produce and the health threat of persons during Non-normative separation	3	6	8	1	0
Costs of the contractor and the consultant	2	9	7	0	0
lake of Encouragement and punitive laws	3	5	8	1	1
Lack of appropriate executive infrastructure in upstream and recycling industries in downstream	3	7	8	0	0
Cost to create proper production culture and waste separation	1	10	5	2	0

$$\text{Normalized weight} = \frac{\text{weight}}{\text{total weight}} = \frac{0.8125}{3.784375} = 0.214699 \quad (4)$$

In completing the internal factors analysis table, in the second column, due to the importance of each element and comparing these components together, the significance factor between zero and one component is assigned to that component. The value of these coefficients must be so that the sum of the coefficients of the components is one. In the third column, depending on the excellence or being alright, the strengths are either three or four and the weaknesses are assigned 1 or 2 respectively. Strengths will overcome its weaknesses if the total score of internal factors in this table exceeds 2.5 and overcoming of weaknesses on the strengths is represented less than 2.5. The results are presented in Table 4.

In completing the external factors analysis table, in the second column, due to the importance of each element and comparing these components together, the significance factor between zero and one belongs to that component. The value of these coefficients must be so that the sum of the coefficients of the components is one. The third column is assigned to one or two with respect to the excellence of the opportunities, respectively, in the rank of four or three, with respect to the seriousness of the threats. If the total sum total of the external factors in this table exceeds 2.5, the opportunities ahead will overcome its threats and if the score is less than 2.5, it represents the overcoming of threats to opportunities (Table 5).

The matrix and executive priorities represent different parts of the system as follows in four separate sections (Fig. 2). Pre and post-production surveys provide such facilities that the expected impacts of strategic decisions on the system are expected. The matrices matrix and executive priorities are formed based on the deployment of the data in two main dimensions and executive priorities are classified in a two strong range (2.5 to 4) and weak (1-2.5). In this matrix, if the location of the study area is studied in terms of scores of external and internal factors in the first area, the aggressive strategy, if it is in the second zone, will be a defensive strategy and finally, if it is in the fourth area, a defensive strategy is proposed.

Because the final score of internal factors on the X-axis is 2.418 and the total score obtained from external factors on the Y-axis is 2.309. Therefore, in accordance with the principles of strategic management, the strategic location of the study area is determined in the second area of the diagram, which fits into the defensive strategies (WT). The strategic location of the study area will be determined in the second area of the diagram, which fits within a combination of the strategies of the two possible regions (ST, WO), (Table 6).

SWOT is one of the most important tools in the strategy formulation process by which the information is compared. In addition, using this matrix, it is possible to formulate four different choices or strategies in terms of the degree of different activities of action in space; of course, some strategies overlap, or perform simultaneously and coordinate each other (Reveshty *et al.*, 2016). Based on the analysis of the present condition of this county in collecting wastes using this matrix, decision-makers are forced to reflect on the impact of each identified factors and analyze the situation more accurately and deeper than what is indicated by itself.

Table 4: Evaluation matrix for internal factors

Internal strategic factors	Weight	Normalized weight	Current situation score	Weighted score final
Strengths				
The municipality's serious determination to solve waste problems and cooperate with other organizations in this field	0.7604	0.0715	3	0.2146
Creation of the Waste Management Authority in the Municipality	0.6771	0.0637	4	0.2547
Starting a separation strategy from the source in the management of the storage and disposal of municipal waste.	0.5903	0.0555	3	0.1666
Reduction of waste management authority to run waste management practices	0.5035	0.0474	4	0.1894
Suitable scientific potentials to improve the level of education and information on waste management	0.5833	0.0549	3	0.1646
Environmental experts and experienced experts at the municipal solid waste management authority	0.4722	0.0444	3	0.1332
Areas of cooperation between research centers and universities	0.4861	0.0457	3	0.1372
Using MIS system and statistics and data analysis	0.4792	0.0451	3	0.1352
Education and incubate Collaboration in building a culture	0.4653	0.0438	4	0.1750
preparation of software and hardware features	0.3403	0.0320	3	0.0960
Weaknesses				
The cost of the waste separation schemes and the loss of relevant jobs	0.5833	0.0549	2	0.1097
Cost of education and R & D (research & development)	0.6181	0.0581	2	0.1163
Non - conducting studies of landfill sites in Damavand in accordance with the administrative regulations of the country's waste management law	0.5417	0.0509	1	0.0509
lack of comprehensive data and quantitative and qualitative information of electronic wastes	0.5278	0.0496	2	0.0993
Job insecurity among Educators and Exhibitors	0.5035	0.0474	1	0.0474
Insufficient coverage of tanks and bags of dried waste to citizens	0.4757	0.0447	1	0.0447
Frequent changes in the management system and related regulations and organizational chart	0.5000	0.0470	2	0.0941
Lack of people cooperation and participation	0.5278	0.0496	1	0.0496
Lack of occupational and mental health planning of staff and contractors	0.4861	0.0457	2	0.0914
Lack of support to provide facilities equipment and financial resources (approved budget) for waste management	0.5104	0.0480	1	0.0480
Total	10.6319	1	-	2.4180

Table 5: Evaluation matrix for external factors

| External strategic factors	Weight	Normalized weight	Current situation score	Weighted score final
Opportunities				
Creating jobs and jobs	0.5104	0.0441	3	0.1324
Manufacturing industrial units Orientation to promote environmental regulation	0.3889	0.0336	3	0.1345
Creation and strengthening of public institutions in line with the implementation of waste management goals	0.3819	0.0330	3	0.0991
Increasing people's trust in urban management practices	0.5139	0.0444	4	0.1778
Increasing the degree of purity of waste and the production of better compost	0.4444	0.0384	3	0.1153
Pollution reduction caused by the production of waste and environment protection	0.6042	0.0523	4	0.1568
Save on waste collection and transit costs	0.6250	0.0541	4	0.1622
Promoting citizenship culture	0.6215	0.0538	4	0.1613
Increasing the budget and enhancing the performance of urban services as a result of a reduction in waste management costs	0.5521	0.0477	4	0.1910
Increase social awareness focuses on environmental issues	0.5972	0.0517	3	0.1550
Threats				
The Economic crisis in the body of urban communities in the region	0.5556	0.0480	2	0.0961
Lack of cooperation of all organs, public education and institutions	0.5521	0.0477	2	0.0955
Time on the implementation of ways to achieve goals	0.6771	0.0586	2	0.0586
Public making cultural problems	0.7569	0.0655	2	0.1309
lack of solid waste management Instructions	0.5556	0.0480	1	0.0480
Probability of contaminated goods produce and the health threat of persons during Non-normative separation	0.6424	0.0556	2	0.0556
Costs of the contractor and the consultant	0.6736	0.0583	2	0.1165
lake of Encouragement and punitive laws	0.6042	0.0523	1	0.0523
Lack of appropriate executive infrastructure in upstream and recycling industries in downstream	0.6701	0.0580	1	0.1159
Cost to create proper production culture and waste separation	0.6354	0.0550	2	0.0550
Total	11.5625	1	-	2.3096
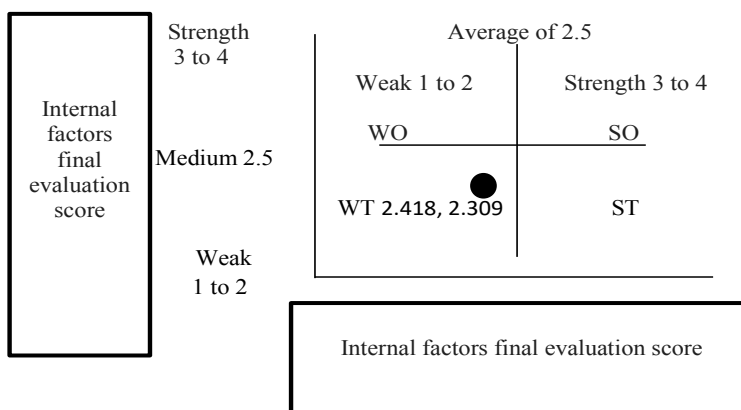
Fig. 2: The strategy matrix and executive priorities SWOT

Table 6: SWOT analysis for the waste separation from the origin in Damavand County

Weakness opportunities	Strength opportunities
Conservative position	Aggressive position
Weakness threats	Strength threats
Defensive position	Competitive position

CONCLUSION

The SWOT model is one of the most important tools in the strategy formulation process by which the information is compared. Using this matrix, it is possible to formulate four different choices or strategies in terms of different degrees of space in space; of course, in the course of action, some strategies overlap or run simultaneously (Hekmatnia and Mousavi, 2006). According to the results obtained from SWOT analysis, the following guidelines are presented in Table 7 for discussing the separation of wastes according to the conditions of the study area (Damavand County).

In this study, a questionnaire was prepared based on the information obtained from the area of study and field visits to the relevant authorities, in which the most important factors in four categories of strength, weakness, opportunity and threats were prepared in SWOT model. Since the state of the collection and reorganization of municipal waste in Damavand County is undesirable and no waste separation is done; therefore internal and external factors are determined to implement this important issue, as stated earlier in this chapter; after reviewing the answer sheet, the most important factors in all four categories were identified. In this section, according to the importance of each strategy obtained from this research, according to the information obtained from the study area, the most important challenges and its consequences are briefly presented. According to the tables obtained in this study, the main internal and external factors after multiple scores were determined that the weaknesses are more than strengths and chances are greater than the threats. This means a defensive position in this study. After reviewing the results, the effective factors in regard to the identification of challenges, barriers and separation of waste from an origin in Damavand County have been identified. These influential factors for achieving the intended target were identified according to the theoretical framework, experts who have jobs related to wastes and questionnaires were completed by them and paired comparisons were conducted among them. This comparison was weighted by fuzzy screening method. Finally, by specifying the weight of each criterion, which was done by paired comparisons, the prioritization was done. Based on the current circumstances in the collection of wastes in the city of Damavand using the SWOT matrix, decision-makers are forced to think more about the impact of each of the identified factors and analyze the situation more accurately and deeper than what is indicated by itself. Therefore, according to analysis matrix of internal and external factors in the waste state of the county, because scores obtained from internal and external factors are 2.451 and 2.158 so, the strategic location of Damavand County is placed on the defensive region because weaknesses and threats are more powerful and more efficient, respectively.

The following techniques are presented in order to better plan the waste from the source in this study:

- Create a position to attract and participate in the private sector to manage municipal waste.
- Culture making and promotion of public education to change consumption patterns.
- Preparation of economic justification plans using durable goods.
- Municipal personnel training for personal hygiene and waste separation.
- Use appropriate technologies, skilled manpower and equipment required to collect wastes.
- Teaching hospital staff to transport solid waste.
- Use of landfill reduction techniques.
- Preparation and distribution of educational clips by the municipality in the field of waste separation and collection.

Table 7: Strategic factors analysis matrix

SWOT	Opportunities (O)	Threats (T)
Strength	SO 1. Propaganda is aimed at promoting an urban culture for segregation and reduction of production waste. 2. Encourage the private sector to invest in a waste gathering. 3. Using legal tools to better run waste management. 4. Improving public knowledge of the recycling process through the implementation of appropriate educational programs.	ST 1. Use of housewives to produce less waste and talks in waste management programs. 2. Required citizens and collection officers to meet schedule. 3. Prevalence of recycling and advertising to use recycled products.
Weaknesses	WO 1. Rules on the reduction and separation of waste at the production source. 2. Promoting the level of environmental knowledge of citizens to reduce waste by training programs. 3. Securing the necessary infrastructure for waste management in terms of monetary terms. 4. Transferring waste to the private sector. 5. Development of mechanization systems of waste collection systems and transportation. 6. The need for isolation of industrial and hospital waste landfills from urban waste. 7. The need to conduct location surveys to determine the new burial ground. 8. Enforcement of the provisions of the waste management rule in the field of waste disposal.	WT 1. Create a position to attract and participate in the private sector to manage municipal waste. 2. Culture making and promoting public education to change consumption patterns. 3. Preparing plans and plans for economic justification of using durable goods. 4. Teaching municipality personnel to observe personal hygiene and to separate waste when collecting. 5. Use appropriate technologies, skilled manpower and equipment to collect data. 6. Teaching hospital staff to transport solid waste. 7. Use of landfill reduction techniques.

- Public media use especially TV, for extensive cultural change in line to implement the provisions of article 6 of waste management law.
- Giving a priority to women with regard to their role in the separation of waste from the origin as well as children and adolescents in order to teach fundamental education in society as an audience of training courses.
- Information about the type, time and location of training courses through the municipal portal, environmental advertising.
- More use of compilation method.
- Enhancing the expertise of managers, staff and trainers associated with waste.
- Development of civic education in centers such as kindergartens, schools and gardens.
- Include more educational materials related to the topic of separation and recycling in public and regional journals.
- Choosing more educated and competent educators and trainers.
- The application of encouragement tools such as award dedication or commutation of the property's waste effects is in the event of active participation of citizens in waste segregation and preventive tools, such as the provision of article 86 of waste management and related crimes to citizens.

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