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Short Communication

An Environmental Management Plan for Iran's Accession to the World Trade Organization

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Abstract

Iran is one of the countries applying for accession to the World Trade Organization (WTO) and currently has observer status. Accordingly, given the time left, it should comply with environmental laws and regulations and design the pattern of trade with other countries to be consistent with environmental criteria and standards. In this regard, the present study was carried out to investigate the opportunities and obstacles of Iran's accession to the WTO. For this purpose, the key strengths, weaknesses, opportunities, and threats toward presenting an environmental management plan for Iran's accession to the WTO were initially examined using matrices for external factor evaluation (EFE) and internal factor evaluation (IFE). Thereafter, the most applicable strategies were identified through SWOT Analysis. Subsequently, the identified strategies were prioritized based on the quantitative strategic planning matrix (QSPM). The obtained results indicated that the strategies "Institutionalizing the environmental laws and regulations based on international consensus," with a score of 5.42, and "investment in ecotourism development based on the natural attractions of Iran," with a score of 5.38 were selected as the best strategies among the existing alternatives.

Keywords: strategic planning, World Trade Organization, SWOT, QSPM

Introduction

Nowadays, the World Trade Organization (WTO) is one of the most important organizations affecting the economic and commercial activities in the world. The principles and decision-making trends in this organization have made it the most influential economic organization on various aspects of economic activities. The WTO officially commenced on 1 January 1995 under the Marrakech Agreement, replacing the General Agreement on Tariffs and Trade (GATT). It had a total number of 157 member countries by 2012 (separate customs territory), and 27 governments are still negotiating for accession. On 26 may 2005 Iran joined the WTO as an observer member, according to which the country is now allowed to initiate its economic activities based on the organization's rules and disciplines. Iran started the process of full accession to the organization, which requires a time interval of 5 to 10 years in the most optimistic case.

Due to lack of interaction with the global trade, the relationship between trade and environment has not yet been seriously considered in Iran. It is obvious that compliance of environmental standards plays a vital role in exports. As one of the candidate countries for accession to the WTO and its observer, it is necessary for Iran to comply with environmental laws and regulations.

Given the recent discussions on Iran's accession to the WTO, it is of executive importance to investigate key strengths, weaknesses, opportunities, and threats towards presenting an Environmental Management Plan for

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Iran's accession. *World Trade Organization* by Whalley discusses how WTO was launched in 1994 as an outgrowth of earlier arrangements set up by the governments of 23 countries under the GATT in 1947. Then it explains the WTO components and elements [1]. Neumayer in 2004 argued that the WTO's past environmental record is much better than critics would have it. He described the effect of globalization on the environment, particularly in developing countries [2].

Mansatta and Pareek in 2008 discussed a growing number of investments by developing countries and their deteriorating effects on the environment [3]. In 2012 Connolly and Hanson investigated Russia's accession to the WTO. They concluded that more substantial indirect benefits will largely depend on the scale and seriousness of domestic reform policies launched in support of WTO compliance (i.e., effects of accession on Russia's political economy) [4]. Marković in 2009 proposed suggestions for successful accession to the WTO. He believed that the accession process can be divided into several steps or stages; the successful fulfillment of the conditions of one stage is the condition for movement to the next [5].

In 2001 Oxley discussed critics opinions on the WTO and its weaknesses for the purposes of protecting the environment [6]. Bayramov in 2010 investigated the impacts of Azerbaijan's accession to the WTO. He found that there are more advantages than disadvantages of Azerbaijan's accession [7].

On 19 July 1996 Iran officially submitted an application to join the WTO. The request remained unconsidered from July 1996 to May 2001 due to US veto power in the WTO Council. Iran's membership was resumed in 2005. Currently, Iran is a WTO observer member and its full membership process has been initiated. During the time left, it is necessary to provide codified strategies, which are totally in compliance with environmental laws and regulations. In this regard, this paper was conducted to prepare an environmental management plan (EMP) for Iran's accession to the WTO.

Materials and Methods

In this study, data collection on strategic management was done through Internet search and reviewing the literature available in the Library of Parliament, the Faculty of Economics and Management in Tarbiat Modarres University, the Library of Tehran University, the official WTO site the Iranian Chamber of Commerce. Afterward, a questionnaire was prepared using the Delphi Method to develop strategic management regarding the internal (strengths and weaknesses) and external (opportunities and threats) factors.

At first, an initial list of internal and external factors affecting Iran's WTO membership was prepared. Subsequently, the Delphi members were asked to comment on the internal and external factors affecting Iran's accession to the WTO. the Delphi panelists include a total number of 20 experienced professionals having at least a master's degree or higher in the specialized fields of environment, natural resources, economics, and management, or faculty members with at least 10 years of relevant experience. They were selected through a snowball sampling method. It is a kind of non-probability sampling method by which the researcher starts to identify the Delphi members by identifying a group of aware people. In this manner, the researcher can find the other qualified individuals. Among the respondents, 10.19% have a Ph.D., 55.13% have a master's of science degree, and 32.68% have a bachelor's degree. In the next step, the analytical hierarchy process (AHP) was used to weigh and prioritize internal and external factors. For this purpose, after finalizing the list of internal and external factors, the preference matrix of these factors was prepared so that the parameters of each factor were placed in the first row and column of the matrix. Then, all parameters were compared wisely with each of criterion at upper hierarchy levels. This was done twice in the study (once for the internal factors and once again for the external factors). Due to the time-consuming mathematical calculations for each matrix, Expert Choice software was used to facilitate calculating the relative weigh of criteria and alternatives. Accordingly, the criteria weights and the final weigh of alternatives were calculated by constructing the hierarchial structure and entering the criteria scores into the rows and columns of the preference matrix in the software. After the identifying and prioritizing the internal and external factors, the internal factors evaluation (IFE) and the external factors evaluation (EFE) matrices were prepared in which the first column is devoted to the factors while the second column includes the corresponding scores [8-11].

It should be mentioned that the matrices should be normalized so that the sum of the assigned weighs must be equal to 1 [12]. In the third column, the factors were rated by the respondents' opinions from very good (5) to poor (1). In the fourth column, the weighted score of each factor was determined by multiplying the values in the first and the second columns. Finally, the total weighted score of the factors was calculated (Tables 1 and 2). Once the IFE and EFE matrices, it was necessary to mix them to provide appropriate strategies based upon the strengths, weaknesses, opportunities, and threats identified. At the end of this step, integrating strengths, weaknesses, opportunities, and threats, the panelists achieved 4 kinds of strategies including SO (aggressive), ST (competitive), WO (conservative), and WT (defensive) strategies. Since only one internal factor and one external factor are involved in each strategy proposed, the quantitative strategic planning matrix (QSPM) was prepared at the end of the strategic planning step. In this matrix, the impact of other internal and external factors on the proposed strategy is predicted by assigning an attractive score (AS) ranging from 1 (the least attractive) to 4 (the most attractive) [13]. Finally, the total attractive score (TAS) was calculated by adding the scores of attractiveness of each strategy in the corresponding column.

Table 1. Internal Factor Evaluation (IFE) matrix.

No.	Strengths (S)	Importance coefficient	Ranking	Final score
1	S1: Unique natural attractions (climate, temperature difference and rainfall) to develop ecotourism industry	0/08	5	0/4
2	S2: Biodiversity of plant and animal species	0/08	4	0/32
3	S3: Geopolitical position of the country in terms of access to the open sea and east-west connecting bridge	0/07	4	0/28
4	S4: Rich reserves of fossil fuels and minerals in the country	0/04	4	0/16
5	S5: Being a young country with a suitable labor potential	0/08	3	0/24
6	S6: Acceptable consumption market due to high population	0/05	3	0/15
7	S7: Increasing attention to environmental protection in the country's macroeconomic policy and planning	0/03	3	0/09
	Weaknesses			
1	W1: Lack of awareness of the concept sustainable development and environmental protection	0/03	2	0/06
2	W2: Weakness of effective laws and regulations in environmental Protection	0/06	2	0/12
3	W3: High birth rates in the country, resulting in greater pressure on natural resources	0/03	1	0/03
4	W4: The government's reliance on foreign exchange revenues from oil, gas, and other non-renewable resources	0/06	2	0/12
5	W5: Lack of valuation of natural resources and the environment	0/04	2	0/08
6	W6: Lack of required infrastructure and poor investment to of attract tourists	0/07	2	0/14
7	W7: State economy and poor contribution of private sector	0/05	2	0/10
8	W8: Lack of specialized, practical training emphasized on training efficient manpower as a main core of sustainable development	0/02	3	0/06
9	W9: Young and structural weakness of industry	0/02	2	0/04
10	W10: Little investment of the private sector and foreigners due to the lack of economic security in the country	0/07	2	0/14
11	W11: Conflict of commercial and environmental laws in the country	0/06	3	0/18
12	W12: Bureaucracies and complex legal process of foreign investment in Iran	0/06	3	0/18
			2.89	IFE =

Results and Discussion

In order to present a management plan for Iran's accession to the WTO, the SWOT technique was used. At first, a list of internal (strengths and weaknesses) and external (opportunities and threats) factors was developed by a workgroup consisting of 20 experts with M.Sc. degree or higher, in fall 2010. According to the expert opinion, they found a total of 7 strengths and 12 weaknesses as the internal factors as well as 11 opportunities and 10 threats as the external factors. In the next step, the IFE and EFE matrices were developed as presented in Tables 1 and 2.

As Table 1 suggests, the "diversity in fauna and flora" with a score of 0.08 is most important strength factor, and "low investment by the private sector and foreigners due to the lack of economic, social, and political security in the country" is identified as the most important weakness. The role of private sector participation was also emphasized by Wall in 2001 [14].

According to Table 2, "decreased government tenure on economic services and commercial sectors," as well as the "possibility of continuous communication with international institutions such as the World Bank supporting environmental initiatives" with a score of 0.07, are of most significant opportunities. Moreover, "lack of land use planning projects in the country," and "increased unemployment and bankruptcy of small businesses followed by social problems" with a weight of 0.06 are accounted for the most important external threats.

The internal and external factors in Tables 1 were given a score ranging from 1 to 5. In the fourth column of the tables, the result of multiplying the weight of each factor by the corresponding rating is presented. As the IFE matrix reveals, the total weight of the factors is equal to 2.89, which is higher than the base value of 2.5. Overall, the strength points are greater than the weaknesses.

The total weight of 2.93 in the EFE matrix indicates the dominance of opportunities over threats. As shown in

Table 2. External Factor Evaluation (EFE) matrix.

No.	Opportunities (O)	Importance coefficient	Ranking	Final score
1	O1: Increasing tendency of companies to green products (after Iran's accession to the World Trade Organization)	0/03	4	0/12
2	O2: Increased activity of NGOs in public enlightenment on environmental issues	0/06	4	0/24
3	O3: Obligation to use environmental labels after Iran's membership in the WTO	0/05	5	0/25
4	O4: Enabling continuous cooperation of Iran with international institutions such as the World Bank and international organizations supporting environmental plans	0/07	4	0/28
5	O5: Potential to attract tourism and ecotourism development on the country's natural attractions	0/06	4	0/24
6	O6: Possibility to receive funds from international institutions after joining WTO	0/05	3	0/15
7	O7: Outsoursing the government's role in economic, services, and commercial sectors	0/07	4	0/28
8	O8: Increased tax revenues and elimination of non-tariff barriers	0/05	3	0/15
9	O9: Enforcement of national and international laws related to the environment	0/06	4	0/24
10	O10: Increasing economic competition for entrepreneurs in foreign markets	0/03	4	0/12
11	O11: Implementation of targeted subsidies plan	0/03	4	0/12
	Threats (T)			
1	T1: Enhancing production processes, greater pressure on resources (especially non-renewable resources), and more environmental destruction and pollution	0/04	1	0/04
2	T2: Structural weakness DoE (Department of Environment)	0/04	2	0/08
3	T3: Lack of land use planning projects in the country	0/06	2	0/12
4	T4: Allowing non-traditional agricultural products into the country and lack of supervision on thier distribution and consumption	0/04	2	0/08
5	T5: Cultural invasion	0/03	2	0/06
6	T6: Increased use of foreign goods due to poor quality of domestic products	0/05	2	0/10
7	T7: Increased import due to elimination of non-tariff barriers and lack of foreign exchange controls	0/03	2	0/06
8	T8: Increased unemployment and bankruptcy of small enterprises resulting social issues	0/06	1	0/06
9	T9: Gradual elimination of domestic manufacturers due to indiscriminate import of foreign products	0/05	2	0/10
10	T10: Legal weakness in protection of intellectual property rights	0/04	1	0/04
				EFE = 2.93

Fig. 1, the total score of internal factors is set on the horizontal axis (X) and the sum of external factors is presented on the vertical axis (Y). The sum of weighted scores in the IE Matrix falls within the SO category.

As mentioned earlier, the final score of IE Matrix is in the SO (aggressive) category by which the organization is trying to take advantage of external opportunities using internal strengths. All managers prefer their organization to be in a position that benefits from external events by using internal strengths. In this research, the following aggressive strategies were selected to develop a management plan for Iran's accession to the WTO:

SO1- Investment for developing ecotourism sector considering the natural attractions of Iran

SO2 - Providing a platform for further activities of NGOs

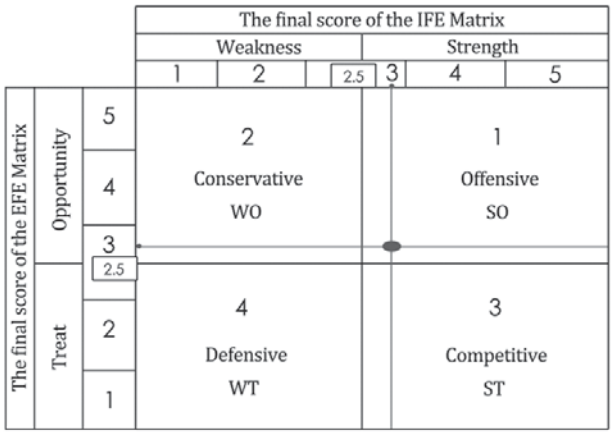

Fig. 1. The internal-external (IE) matrix.

Table 3. Top-priority strategies.

No.	Top-priority strategies	Attractive score
1	SO4 - Institutionalizing environmental laws and regulations based on international consensus	5,42
2	SO1 - Investment for developing ecotourism sector considering natural attraction of the country	5,38
3	SO6 - Establishing laws, regulations, and effective standards approaching economic, social, and environmental issues	5,24
4	SO3 - Providing required fields for companies and factories to take benefit from clean technology	4,96
5	SO2 - Providing required field for more NGO activity	4,93
6	SO11 - Environmental assessment of projects and initiatives related to domestic and foreign investment before any attempt at economic assessment	4,78
7	SO8 - Providing required field for optimal use of foreign exchange earnings from non-oil exports, and reducing the government's reliance on foreign exchange earnings from oil and gas and other non-renewable resources	4,24
8	SO10 - Paying attention to the domestic industrial activities and giving adequate facilities	4,08
9	SO12 - Developing the cooperation between agencies, institutions, and ministries, including the Ministry of Commerce and the Department of the Environment to provide a coordinated environmental program about the commercial sectors	3,94
10	SO16 - Implementing the targeted subsidies project and stabilizing the price of manufacturing products in the country	3,74

SO3 - Providing the basis for the use of clean technologies by companies and factories

SO4 - Institutionalizing environmental laws and regulations based on international consensus

SO5 - Recruiting young people

SO6 - Legislation of effective laws and regulations based on socioeconomic and environmental approaches

SO7 - Strengthening applied and specialized training with the aim of achieving efficient manpower as a central pillar of sustainable development

SO8 - Providing a platform for optimal use of foreign exchange earnings from non-oil exports to reduce the government's reliance on foreign exchange earnings from oil, gas, and other non-renewable resources

SO9 - Developing bilateral cooperation at regional and international levels, especially with neighboring countries

SO10 - Paying attention to the domestic industrial activities by granting of adequate facilities

SO11 - Environmental impact assessment of projects and initiatives related to domestic and foreign investments before any attempt at economic valuation

SO12 - Cooperation of agencies, institutions and ministries, including the Ministry of Commerce and Department of Environment to provide the commercial sectors with an integrated environmental program

SO13 - advocating stringent environmental regulations to protect animal and plant species

SO14 - Taking advantage of the privileged geopolitical situation of the country to strengthen regional and international cooperation

SO15 - Facilitating foreign investment in the country in compliance with environmental considerations

SO16 - Implementing the targeted subsidy plan to stabilize the price of manufactured products in the country

SO17 - Environmental levy (green taxes) on imported goods in the future

SO18 - Developing local environmental subsidies and taxes

SO19 - Providing an appropriate platform for private sector to make an investment in environmentally friendly equipment and technologies, which are adopting a competitive strategy for which the QSPM was developed (Table 3), in which the impact of other internal and external factors on the competitive strategies was examined. To this end, while listing,all internal and external factors, the reinforcing or inhibiting effect of each factor (AS) was regarded in selecting the executive strategies. The extent of these effects were scored ranging from 1 to 4. The TAS was calculated by multiplying the AS by the weight of each factor (derived from IFE and EFE matrices). Then by summing the TAS values of each strategy, the executive priority of each strategy was determined from the perspective of internal and external factors. According to the QSPM results, the following top priority strategies were selected as listed in Table 3. In order to improve the conditions and proper environmental management performance, the following recommendations are suggested based on the research findings: In targeted environmental management Preventing the loss of resources improving individuals' knowledge about the environmental issues:

– Enforcing the environmental laws, regulations, and standards.
– Proving a platform for cooperation of academic centers.
– Developing comprehensive and long-term projects in line with Iran's accession to the WTO.
– Providing strategic environmental action plans for

accession to the WTO. More research is necessary for comparing environmental management strategies developed in Iran with those of developed countries.
- Continental improvement of regulations and standards of various sectors related to environmental issues.
- Updating laws on natural resources and the environment.
- Allocating financial resources to provide the private sector with appropriate technologies and machinery as subsidies and bank loans.
- The inclusion of environmental protection costs and benefits in market mechanisms to achieve environmental protection and sustainable development
- Developing a national trade pattern based on Iran's long-term planning and international environmental considerations.
- More attention must be paid to environmental associations, organizations, and NGOs at local and national levels.
- Coordinating national trading regulations with the demands of an international trading system.

Conclusion

In general, accession to the WTO is a complicated procedure involving cooperation of governmental agencies and decision-makers. It will not be possible except by changing management systems, mindsets, attitudes, and even performances. According to Article 44 of the Iranian Constitution, which emphasizes the guiding role of the non-governmental sector in the accession process, it is suggested to establish a WTO Accession Committee with participation of all stockholders, and above all, Iran's Chamber of Commerce as the largest non-governmental institution to facilitate Iran's accession to the WTO. The environmental impacts of China's accession were also emphasized by Shantonga and Jianwua in 2013 [15].

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