# STRATEGY MAKING WITH QUANTIFIED SWOT APPROACH: A CASE ANALYSIS ON TOURISM INDUSTRY IN BLACK SEA REGION OF TURKEY

Nermin Celik
Zonguldak Karaelmas University, Turkey
Department of Business Administration

ABSTRACT

*Due to the increasing demand, service competitiveness requirements, and customer expectations in tourism sector in Turkey, satisfactorily solutions and development strategies are required for the ongoing problems to keep the business performance in desired level. Recent researches indicate that the popularity of Black Sea Region, located in the north side of Turkey, has been raised, however, the enterprises and infrastructural quality of service facilities are dramatically seemed to be insufficient. Hence, this paper proposes development strategies on tourism industry by utilizing the Quantified SWOT Analysis. The outcomes of this paper originally contribute strategic vision of Turkish tourism industry subsequently. The extension of this research can be performed to cover the collaborative research programs towards tourism sector under unique implementation plan of Black Sea Economic Cooperation (BSEC).*

*Key words: Tourism Industry, Analytic Hierarchy Process, SWOT Analysis.*

## 1. Introduction

Tourism is a one of the sectors that largest and fastest improving in the world has an important role to provide employment chance, improvement infrastructure and superstructure, grow economy, and maintain environment for many countries and regions. It can't be denied that Turkey, which has got a tourism potential which can meet the changes and new expectations emerging in the world tourism market with all of its aspects, is of importance in tourism industry. Turkey is the 11th most visited country in the world and ranks 9th in tourism income (Turkiye Tourism, 2006). With lush and green throughout the year, rocky mountains, the cool waters of the coast and plantations of tea, hazelnuts, tobacco and corn, the Black Sea is a unique part of the Turkey which is a country situated at crossroads of three continents: Asia, Europe, and Africa. The culture, cuisine, climate, and even dialect are different to the rest of Turkey, and the coastal road stretches from east of Istanbul to the border with Georgia. Along the coastline, mile after mile of beautiful uncrowned beaches offer sun, swimming and relaxation. The humid climate and fertile soil encourage cultivation of a variety of crops including tea, tobacco, corn and hazelnuts. The cities in this region are Amasya, Artvin, Bolu, Corum, Duzce, Giresun, Gumushane, Kastamonu, Ordu, Rize, Samsun, Sinop, Tokat, Trabzon, Zonguldak, Bartin, and Karabuk (Ministry of Culture and Tourism, 2005). The Black Sea is easily accessible to tourists and provides a wide range of hotels and restaurants at a variety of prices (Turkiye Online, 2007). For over half a century, the

Black Sea has been a popular tourist destination, particularly for residents of the former Soviet Union and the countries in Central Europe (BSERP, 2007). It has remarkable natural, cultural and historical resources for development of tourism. So it attracts a lot of local and foreign tourists to region. The sustainable development of tourism may vitalize some of the poorest province of the region.

With the technological innovations, globalization, competition, and increasing demand, the importance of destination marketing has been increased in last decade. To gain competitive advantage in destination, basic characteristics of destinations should be determined and evaluated and it is necessary to create specific tourism policies for developing a long term plan for tourism industry and to avoid the long term problems associated with faulty tourism development. (Boz et al., 2007). SWOT (the acronym standing for Strengths, Weakness, Opportunities, and Threats) analysis which is an effective tool for analyzing internal and external environments in order to attain systematic approaches and supports for successful industry strategy formulation, can be used. Combination of SWOT analysis with Analytic Hierarchy Process (AHP) are proposed in this paper, because of the conventional SWOT analysis is based on the qualitative method and it has no means of identifying and evaluating the importance of factors analytically (Shinno et al., 2006). The proposed method is achieved by performing pair-wise comparisons between SWOT factors and then analyzing them by means of the Eigen value method applied in the AHP (Saaty and Hu, 1998, Monitto et al., 2002). Furthermore, the effectiveness of the proposed method and possibilities for its application to the competitive strategy formulation has been confirmed.

The rest of this paper is divided into three sections: Section 2 overviews Quantified SWOT Analysis generally. A combination of SWOT analysis with AHP for Black Sea Region of Turkey is represented in Section 3 which divided three sub-sections. These sub-sections propose strategies on tourism sector afterwards classify and priority of the related SWOT factors. The paper is concluded with findings of this research, and assigning the further research directions.

## 2. Brief Overview on Quantified SWOT Analysis

SWOT analysis which is a strategic planning tool used to evaluate the different factors in situation analysis (Dwyer and Tanner, 2002). This analysis involves systematic thinking and comprehensive diagnosis of factors relating to a new product, technology, management, or planning (Weihrich, 1982) and it allows to categorize factors into internal (strengths, weaknesses) and external (opportunities, threats) as they relate to a decision and thus enables them to compare (Wheelen and Hunger, 1995; Kotler, 2002). One of the main limitations of this analysis is that the importance of each factor in decision making can not be measured quantitatively on the proposed plan or strategy. So it is difficult to assess

which factor influences the strategic decision most (Pesonen et al., 2000). If SWOT approach is used in combination with AHP, it can be provided a quantitative measure of importance of each factor on decision-making (Kurttila et al., 2000; Saaty and Vargas, 2001; Ananda and Herath, 2003).

The AHP developed by Saaty is one of the mathematical methods for analyzing complex decision problems with multiple criteria, and can deal with qualitative attributes as well as quantitative (Saaty, 1990a, 1990b). By utilizing the AHP in SWOT analysis, individual SWOT factors are arranged in a hierarchic structure in a systematic manner and weighted quantitatively (Badri, 1999; Kurttila et al., 2000). There are four main steps in applying the AHP: building a hierarchy, making pair wise comparisons, generating priority vectors, and synthesizing with respect to overall goal.

Each factor used in decision making is compared pair-wise; afterwards a hierarchical decision schema is constructed by decomposing the decision problem. The judgments are taken in the form of paired comparisons because of the most effective way to concentrate judgments is to take a pair of elements and compare them on a single property without concern for other properties. The pair-wise comparisons made by the decision makers are assigned numerical values based on the 1 to 9 scale recommended by Saaty shown in Table 1.

There are n(n-1)/2 judgments required to develop the set of matrices. Synthesis is used to weight the eigenvectors by the weights of the factors. Having made all the pair-wise comparisons, the consistency is determined by using the Eigen value to calculate the consistency ratio (CR) using the Super Decisions software package (Super Decisions, 2007). The CR is acceptable, if it does not exceed 0.10. If it is more, the judgment matrix is inconsistent. Knowledge of inconsistency enables one to determine those judgments that need reassessment (Zakarian and Kusiak, 1999). Furthermore when standard AHP is applied, it is recommended that the number of factors within a SWOT group should not exceed 10 because the number of pair-wise comparisons needed in the analysis increases rapidly.

This method is utilized in the various application areas such as environment (Kangas et al, 2003; Leskinen et al., 2006; Masozera et al., 2006), tourism (Kajanus et al., 2004), project management (Stewart et al., 2002), agriculture (Shrestha et al., 2004), manufacturing (Shinno et al., 2006) etc. Furthermore, relevant applications on utilization of the Simple Multi-Attribute Rating Technique (SMART) (Kajanus et al., 2004), Stochastic Multi-criteria Acceptability Analysis with Ordinal criteria (SMAA-O) (Kangas et al., 2003) and Analytic Network Process (ANP) (Yüksel ve Dağdeviren, 2007) in SWOT analysis is studied in literature.

## 3. Implementing Quantified SWOT Analysis

SWOT analysis explained the former section can be used as a tool to be profited in order to determine internal and external factors of tourism potential of a region. For determining priority values of assessment factors, it is combined AHP with SWOT analysis in this study. To reach this aim, firstly classification and evaluation of factors are made in this paper. Outcomes identify as to propose strategies to Black Sea Region finally. The Quantified SWOT approach consists of the following three steps:

### 3.1. Structuring of the Key SWOT Factors

This section eagerly motivates on identifying the key SWOT factors on tourism competitiveness. This wide range of review includes the research proposals on competitiveness and strategic management towards regional development of tourism industry. Moreover, the market-based survey is also performed to outline the tendencies of local authorities in the Black Sea Region of the Turkey as well.

As one of the researches regarding with the strategic planning on tourism industry, Kajanus et al. (2004) tested and demonstrated the usability of a novel planning tool in tourism planning by utilizing a hybrid method combining the well-known SWOT analysis and the AHP. They found generating incomes from tourism business in the region, new economy, reform in rural areas, and strong culture were the most important means of maintaining the vitality of rural areas. Enright and Newton (2004) generated a set of tourism specific items based on the core resources and attractors such as climate, different culture, cuisine, notable history, interesting festivals, museums etc. Similarly, Crouch (2006) researched destination competitiveness theory on tourism development and described culture and history, mix of activities, special events, entertainment, superstructure, market ties as core resources and attractors. Lordkipanidze et al. (2005) emphasized the importance of infrastructure on tourism development and stated that governments play a central role in providing the necessary physical infrastructure for business, e.g. streets, roads, water systems, airports and businesses require raw materials, labor, management, technology, and transportation in order to produce goods and services necessary for survival in the marketplace.

For shifting the motivation towards tourism potential of Black Sea Region, the relevant papers on Turkish tourism sector (Smid and Loewendahl-Ertugal, 2002; Ministry of Culture and Tourism, 2005; BSERP, 2007; Turkiye Online, 2007) were investigated and synthesized. Moreover, the tourism industry professionals (i.e tourism agencies, academicians, national authorities, private sector representatives, and etc.) in the Black Sea Region additionally contributed the structure of the control hierarchy of the proposed SWOT approach.

At the end of the literature review and market-based survey, the decision-making

factors on developing of competitive strategies regarding with enhancing the tourism potential of Black Sea Region are structured. Table 2 illustrates the key SWOT factors for internal and external assessments of the potential tourism characteristics of Black Sea Region.

### 3.2. Prioritization of the Factors

After the list of SWOT factors in decision making process is identified, scores on factors are evaluated by using questionnaire survey form which consists of seventy two questions. The judgments are taken with the help of a questionnaire form of pair-wise comparisons that is the most effective way to concentrate judgments. The pair-wise comparisons are made using a fundamental scale that called scale of relative importance or nine point scale. The geometric means of all responses for each pair-wise comparison are analyzed using the Super Decisions. In this study pair-wise comparison reflects the judgments and main tendency of different experts such as owners of travel agents, manager of the tourism and culture organization, and academicians and students from tourism training institutions. Ten members from the different group complete the questionnaire.

To obtain the group consensus, geometric means of expert opinion is calculated. A consistency ratio is also calculated for each comparison matrix is found less than 10 % using the Super Decisions. The strength vector is found by Eigen value solution which is often used in numerical analysis and the relative weights of key factors are obtained by utilizing the AHP method after the consistency test. As a result of investigation, an overall assessment scheme for the problem is structured and it is illustrated in Table 4.

In this paper, weights of SWOT groups are the same while priority values of all factors reflected experts opinion are different each one. According to experts the most strength aspect of the region is located in the cross-road of Europe and Asia (0.4976). Diversity of natural features including coastal and rainforest and unspoilt natural scenery (0.2408) is the secondary strength aspects. Also the availability of infrastructure (road, airports, etc.) and support services (e.g. national marketing and promotion plan) are weaknesses factors which affect development in the region.

Figure-1: Matrix of the Black Sea Region under the SWOT Analysis

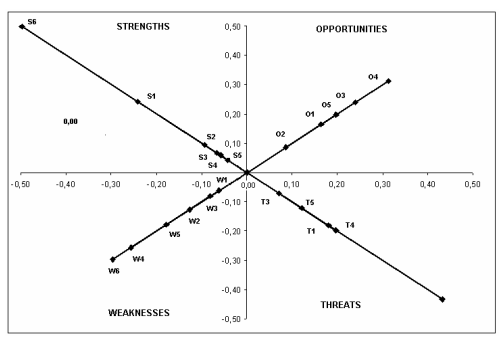
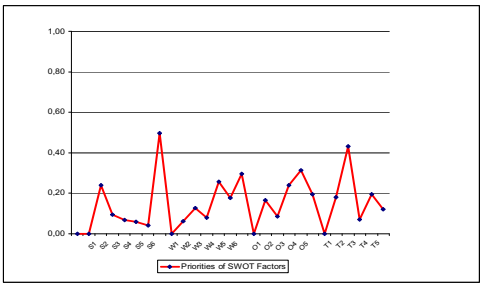



Figure2: The SWOT Analysis of the Black Sea Region with Graphical Illustration

The major opportunity in this region is word' tourism grown up gradually (0.3132) followed by development of package tourism such as trekking, ornithology, botany,

canoeing, rafting, cycling, scuba diving, paragliding and skiing (0.2397). The most important treat for this region which is the common problem of tourism regions is wars, terrorism, and political instability experienced in close neighbors (0.4323). The strengths, weaknesses, opportunities, threats of the Black Sea Region can be seen easily in the charts (Figure 1 and Figure 2).




### 3.3. Improvement Strategies on Black Sea Region

The classification and prioritization of the strengths, weaknesses, opportunities, and threats of the Black Sea Region about tourism potential help contribute this paper to choose suitable strategy formulation and development on the region. Due to the over capacity, changes in tourist enjoyments and preferences, service competitiveness requirements, and new tourism types, SWOT analysis which is a way of summarizing the current state of a region and helping to devise a plan for the future is necessary to applied in Black Sea. Hence, the proposed quantitative SWOT analysis can provide an important foundation for formulation of a successful strategy. Proposed strategies on tourism sector in Black Sea Region of Turkey can be improved as shown in Table 4.

According to the findings, it is clearly understood that it is possible to improvement new strategies about Black Sea Region by emphasizing the strengths, eliminating the weaknesses, taking advantage of the opportunities, and resisting the potential threats. Because of proposed framework, short and long term strategies listed in Table 5 are developed.

## 4. Conclusion and Further Studies

A structured methodology for identifying and analyzing the SWOT factors of the tourism industry in Black Sea Region of Turkey has been utilized in this study. Hence current and future situations of tourism in Black Sea are criticized by means of Quantified SWOT analysis. The analysis aims to identify the main trends and key issues that influence development of the region tourism industry. As a result, Black Sea has important tourism potential with strategic location and natural features; however infrastructure and promotion for tourism are inadequate. Moreover, the Black Sea can be one of the most popular tourism centers in the world if proposed strategies are implemented. Consequently, the original contributions of this paper are expected for the further research projects on investigating the tourism potential of the Black Sea Region. The collaborative research programs towards tourism sector under unique implementation plan of Black Sea Economic Cooperation (BSEC) can further be performed by involving of the neighbor countries in the region such as Bulgaria, Romania, Ukraine, and so on.

Reference


Ananda, J. and Herath, G. (2003), "The Use of Analytic Hierarchy Process to Incorporate Stakeholder Preferences into Regional Forest Planning", *Forest Policy and Economics*, Vol. 5, pp. 13–26.

Badri, A. M. (1999), "Combining the AHP and GP for Global Facility Location-Allocation Problem", *International Journal of Production Economics*, Vol. 62 , No. 3, pp. 237–248.

Boz, Mustafa, Emrah Özkul and Şule Aydın (2007), "Swot Analysis for the Determining Touristic Policy and Plans in Canakkale", *2007 International Tourism Biennial*, Canakkale, April 30 - May 5 2007.

BSERP (2007), *Black Sea Study Pack: A Resource for Teacher*, http://www.bserp.org/Text/ESP/Tourism. htm, [Accessed 13.9.2007]

Crouch, Georfley I. (2006), "Destination Competitiveness: Insight into Attribute Importance", *International Conference of Trends, Impacts and Policies on Tourism Development*, Hellenic Open University in Heraklion, Crete, June 15-18 2006.

Dwyer, R. and Tanner, J. (2002), *Business marketing*, Second edition, International edition, NY: McGraw-Hill.

Enright M. J. and J. Newton (2004), "Tourism Destination Competitiveness: A Quantitative Approach", *Tourism Management*, Vol. 25, pp. 777-788.

Kajanus M., Kangas J. and Kurttila M. (2004), "The use of value focused thinking and the A'WOT hybrid method in tourism management", *Tourism Management*, Vol. 25, pp. 499– 506.

Kangas J., Kurttila M., Kajanus M. and Kangas A. (2003), "Evaluating the management strategies of a forestland estate - the S–O–S approach", *Journal of Environmental Management*, Vol. 69, pp. 349–358.

Kotler, P. (2002), *Marketing management*, Tenth edition, USA: Pearson Custom Publishing.

Kurttila, M., Pesonen, M., Kangas, J. and Kajanus, M. (2000), "Utilizing the analytic hierarchy process AHP in SWOT analysis – a hybrid method and its application to a forest-certification case", *Forest Policy and Economics*, Vol. 1, pp. 41–52.

Leskinen L. A., Leskinen P., Kurttila M., Kangas J. and Kajanus M. (2006), "Adapting modern strategic decision support tools in the parcipatory strategy process – a case study of a forest research station", *Forest Policy and Economics*, Vol. 8, pp. 267-278.

Lordkipanidze, M., Brezet H., Backman M. (2005), "The entrepreneurship factor in sustainable tourism development", *Journal of Cleaner Production*, Vol. 13, pp. 787-798.

Masozera, M. K., Alavalapati, J. R. R., Jacobson, S. K. and Shrestha, R. K. (2006), "Assessing the suitability of community-based management for the Nyungwe Forest Reserve, Rwanda", *Forest Policy and Economics*, Vol. 8, pp. 206-216.

Ministry of Culture and Tourism (2005), *Black Sea Region*, www.kultur.gov.tr/EN/yonlendir.aspx?17A16AE305 72D3137EE1F1486EE5030EF9F8102006DD7892, [Accessed 23.9.2007].

Monitto, M., Pappalardo, P. and Tolio, T. (2002), "A new fuzzy AHP method for the evaluation of automated manufacturing system", *Annals CIRP*, Vol. 51, No. 1, pp. 395–398.

Pesonen, M., Kurttila, M., Kangas, J., Kajanus, M. and Heinonen, P. (2000), "Assessing the priorities using A_WOT among resource management strategies at the Finish Forest and Park Service", *Forest Science*, Vol. 47, No. 4, pp. 534–541.

Saaty, T. L. (1990a), "An Exposition of the AHP in Reply to the Paper Remarks on the Analytic Hierarchy Process", *Management Science*, Vol. 36, No. 3, pp. 259-268.

Saaty, T. L. (1990b), "How to make a decision: The Analytic Hierarchy Process", *European Journal of Operational Research*, Vol. 48, pp. 9–26.

Saaty, T.L. and Hu, G. (1998), "Ranking by eigenvector versus other methods in analytic hierarchy process", *Appl. Math. Lett.*, Vol. 11, No. 4, pp. 121–125.

Saaty, T. L. and Vargas, L. G. (2001), *Models, Methods, Concepts and Applications of the Analytic Hierarchy Process*, Kluwer Academic Publishers, Boston, MA.

Shinno, H., Yoshioka, H., Marpaung, S. and Hachiga, S. (2006), "Quantitative SWOT analysis on global competitiveness of machine tool industry", *Journal of Engineering Design*, Vol. 17, No. 3, pp. 251–258.

Shrestha, R. K., Alavalapati, J. R. R. and Kalmbacher, R. S. (2004), "Exploring the potential for silvopasture adoption in south-central Florida: an application of SWOT-AHP method", *Agricultural Systems*, Vol. 81, pp. 185–199.

Smid, Siemon and Loewendahl-Ertugal, Ebru (2002), Tourism on Turkey, *IBM Global Services*, Business Consulting Services, No: 00.068.

Stewart A. R., Mohamed S. and Daet R. (2002), "Strategic implementation of IT/IS projects in construction: a case study", *Automation in Construction*, Vol. 11, pp. 681–694.

Wheelen T. L. and Hunger J. D. (1995), *Strategic Management and Business Policy*, 5th edition, Addison Wesley, Reading, MA.

Yüksel İ. and Dağdeviren, M. (2007), "Using the analytic network process (ANP) in a SWOT analysis: A case study for a textile firm", *Information Sciences*, doi:10.1016/j.ins.2007.01.001, (In press).

Zakarian, A. and Kusiak A. (1999), Forming Teams: An Analytical Approach, *IIE Transactions*, Vol. 31, pp. 85–97.

Table- 1: Saaty's scale of relative importance

| Intensity of relative | Definition |
|---|---|
| 1 | Equal importance |
| 3 | Moderate importance of one over another |
| 5 | Essential or strong importance |
| 7 | Very strong importance |
| 9 | Extreme importance |
| 2,4,6,8 | Intermediate values between the two adjacent |

Source: Saaty: 1990b: 15.

Table- 2: Key SWOT factors for internal and external assessments

| SWOT groups | SWOT Factors | |
|---|---|---|
| Strengths (S) | $S_1$ | Diversity of natural features and unspoilt natural scenery |
| | $S_2$ | Interesting edifice like Old Ottoman houses, Ayasofya Museum, Sumela Monastery |
| | $S_3$ | Richness of cultural heritage such as festivals, craft, cuisine, dance, museums etc. |
| | $S_4$ | Skiing centre like Kartalkaya, Ilgaz, Gumus |
| | $S_5$ | Suitable streams for rafting, canoe, sandalwood, fishing |
| | $S_6$ | Strategic location on the cross-road of Europe and Asia |
| Weaknesses (W) | $W_1$ | Ineffective coordination between the related and supporting industries |
| | $W_2$ | Impact of seasonality on sustained growth and performance of nature based tourism |
| | $W_3$ | Lack of conference center |
| | $W_4$ | Lack of an integrated national marketing and promotion plan |
| | $W_5$ | Weak standard of service generally because of inadequate training facilities |
| | $W_6$ | Lack of infrastructure of travel industry |
| Opportunities (O) | $O_1$ | Implementation of the suite of initiatives |
| | $O_2$ | Affluence of water resource |
| | $O_3$ | Development of long trip opportunities |
| | $O_4$ | Word' tourism grown up gradually |
| | $O_5$ | Development of package tourism |
| Threats (T) | $T_1$ | Underdeveloped tourism infrastructure (communication, presentation, |
| | $T_2$ | Wars, terrorism, and political instability experienced in close neighbors |
| | $T_3$ | Scarcity of skilled person in tourism field |
| | $T_4$ | Less care of environment and global warming |
| | $T_5$ | Competition with other regions in tourism sector |

Table- 3: Distribution the number of experts

| Expert Group | Number of person |
|---|---|
| Tourism Training Institutions | 7 |
| Tourism and Culture Organization | 1 |
| Travel Agents | 2 |
| Total | 10 |

Table 4: Priorities of SWOT Groups and Factors

| SWOT Groups | Priorities of SWOT Groups | SWOT Factors | Priorities of SWOT Factors |
|---|---|---|---|
| | | $S_1$ | 0.2408 |
| | | $S_2$ | 0.0937 |
| S | 0,25 | $S_3$ | 0.0666 |
| | | $S_4$ | 0.0585 |
| | | $S_5$ | 0.0428 |
| | | $S_6$ | 0.4976 |
| | | $W_1$ | 0.0620 |
| | | $W_2$ | 0.1263 |
| W | 0,25 | $W_3$ | 0.0805 |
| | | $W_4$ | 0.2569 |
| | | $W_5$ | 0.1780 |
| | | $W_6$ | 0.2963 |
| | | $O_1$ | 0.1645 |
| | | $O_2$ | 0.0863 |
| O | 0,25 | $O_3$ | 0.2397 |
| | | $O_4$ | 0.3132 |
| | | $O_5$ | 0.1964 |
| | | $T_1$ | 0.1801 |
| | | $T_2$ | 0.4323 |
| T | 0,25 | $T_3$ | 0.0701 |
| | | $T_4$ | 0.1965 |
| | | $T_5$ | 0.1210 |

Table- 5: Proposed Improvement Strategies for Black Sea Region

| No | Proposed Improvement Strategies | Related SWOT code |
|---|---|---|
| 1 | Strengthening collaborations between the related and supporting industries by arranging meetings, and entertainments. | $W_1$ |
| 2 | Setting up the Research and Development (R&D) by ensuring cooperation between public sector and private sector. | $W_1$ |
| 3 | Emphasizing strong values of culture-based tourism (e.g. craft, cuisine, dance) by displaying them in special days like New Year's Day or Religious Festival. | $W_2$, $S_3$ |
| 4 | Utilizing the both historical and cultural characteristic at the presentation of the region in festivals and fairs to attract tourists. | $W_2$, $S_2$, $S_3$ |
| 5 | Arranging unusual activities to revive winter tourism. | $W_2$, $S_4$, $T_5$ |
| 6 | Increasing the presentations of the interesting place by means of national and international channels and exposition arranged by tourism organizations | $W_2$, $W_4$, $S_2$ |
| 7 | Building the conference centers or meeting rooms to different place of region. | $W_3$ |
| 8 | Arranging competitions concerning with photograph and picture to help region' presentation | $W_4$, $W_1$, $S_1$ |
| 9 | Increasing the number of package tour with reduction in this region | $W_4$, $O_5$ |
| 10 | Supervising communication, presentation, and accommodation systems to resolve the problems related tourism infrastructure | $W_4$, $T_1$ |
| 11 | Developing of human resource especially in accommodation fields with training facilities. | $W_5$ |
| 12 | Considering of the importance of quality beginning from training institution | $W_5$, $T_3$ |
| 13 | Rearranging the roads and airports by using initiatives | $W_6$, $O_1$ |
| 14 | Improving services of the technical infrastructure and getting priority technical infrastructure investments | $T_1$ |
| 15 | Making local people conscious of environment using billboard, television channels, radio programs | $T_4$ |